University of Alberta

Graduates' Assessments of the Value of a University Education

by

Jeffrey W. Bowlby ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of
the requirements for the degree of Doctor of Philosophy

Department of Sociology

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Abstract

This study examines concerns about the value of a university education which have been raised in recent years by policy-makers and business leaders, and which have been frequently presented in the media. More specifically, there have been criticisms directed at the education system, including universities, that students are not acquiring adequate employment skills or human capital for today's rapidly changing global economy. Given this, the value of a university of education is addressed in this study by examining: (1) employment outcomes of university graduates; (2) graduates' evaluations of their university education; and (3) graduates' perceptions of the skills they developed at university. Another objective of this study is to examine the concept of "human capital" in more detail than have other social scientists in the past. Semi-structured interviews were conducted in 1997 with thirty-seven individuals who had graduated from a range of programs at the University of Alberta in 1989. As well, questionnaire data was examined which had been collected from these same individuals between 1985 and 1992 as part of the *Edmonton School-Work Transitions Study*. Findings revealed that a university education had been of value for graduates in three main respects: (1) the types of jobs they had acquired in the labour market; (2) the fact that most graduates were positive in their assessments of their university education, and did not have any regrets about their educational choices; and (3) the range of skills that graduates said they learned in their programs, the fact that they believed university had been important for learning these skills, and that many of these skills had been useful for them in the workplace. Despite these positive findings, about half of all graduates remarked that their programs lacked a practical dimension and that some job-specific skills should have been learned. In light of these findings, those who are critical of universities are not necessarily correct to assume that a university education lacks value today. Before adopting a negative stance about the quality of higher education, critics need to make a more concerted effort to examine how a university education might be of value. The findings from this study, including a number of comments that graduates provided about their education also have implications for university administrators and the type of education that they are offering to students.

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Chapter 1
Introduction

1. Questioning the Value of University Education

Over the last several decades in Canada, there have been questions raised by government, industry and the media about the value of a university education. For example, there have been concerns about how prepared graduates are for the workforce today, in terms of the employment skills they take with them from their academic programs. Some of this questioning is embedded in larger debates regarding the supply of skilled labour for the workforce today, and critiques of the Canadian education system more generally. A number of interrelated factors have played a part in prompting these critiques, including the presumed demand for skilled labour in today's global economy. As well, some observers have noted the demand for specialized skills on the part of labour which is presumably necessary for today's rapidly changing information society. Additionally, higher than average unemployment rates among Canadian youth throughout the 1980s and 1990s have fueled concerns that our graduates are not meeting the needs of employers.

More specifically, concerns have been raised by government, industry and the media that there is a skills shortage in Canada. Sometimes a somewhat different concern is raised; namely, that there is a mismatch between the skills that students acquire in Canada's education system and the skills which are actually required by employers in the labour market. Some call for greater development of "high-tech skills" (Conference Board of Canada, 1998). Many policy reports and discussion papers have discussed how to more effectively deal with the demands for highly skilled labour in today's competitive economic climate (Corporate Higher Education Forum, 1984; Canadian Chamber of Commerce, 1990; Economic Council of Canada, 1992; Conference Board of Canada, 1994). For example, a federal government discussion paper from 1991 entitled *Learning Well...Living Well* exemplifies this concern.

> While there are many steps we must take to secure our future…a critical element of future success will be our ability to ensure that all Canadians have the relevant skills needed to survive and thrive in a fast-changing economy…Studies are now painting a picture of future skills needs that simply cannot be met by our existing learning system…Most Canadians, both in the classroom and at work, are not getting the level of skills and training they want and need…Our prosperity depends on major improvements in the general level of skills held by all Canadians, as well as on having many more people with advanced and specialized skills (Canada, 1991: v)

Other government documents reflect a similar attitude. For example, the Alberta Education report *Framework for Enhancing Business Involvement in Education* noted that "we must ensure that our education system is achieving the results we want for our young people and giving them the skills they need to grow and succeed" (Alberta Education, 1996: 1). In reference to this, Taylor (1998) outlines how the government of Alberta has embraced the ideology and discourse of employability skills in its policy initiatives throughout the 1990s. She also traces how Alberta Education's policy initiatives are strongly related to ongoing corporate-sponsored interest in employability skills, particularly that of the Conference Board of Canada.

The complaint that young Canadians, including university students, are not acquiring sufficient skills to support a competitive Canadian economy has also been expressed elsewhere. For example, media reports often reflect this perception, and frequently cite the need for a better trained and more highly skilled workforce. Some recent examples include the following:

> "There are 20,000 vacant jobs sitting like so many unfilled shoes at the back of Canada's closet..[the] story perfectly illustrates the paradox of Canada's workplace. While thousands of Canadians are unemployed, thousands of good, new-economy jobs go wanting...[how] do you ensure you can step easily into any career?...The answer, according to the hot workers we've profiled, is not that complicated: get skilled. Get skilled whether you're a first-year university student wandering around the career centre or a CEO seeking a new view from your window" (Canadian Business, 1996).

> "*The Skills Squeeze*…With 1.6 million Canadians out of work, the reskilling of Canada has become a national priority as high-skill jobs go begging. This country is losing out because its citizens are reluctant to forgo their white-collar pretensions, because our education system refuses to adjust to 21st-century realities, and management and unions can't seem to devise a win-win system to provide greater access to skilled trades. If workers were willing - and education, management and labour able - to solve the skills mis-match, the result would be a healthy drop in the unemployment rate...We should have billboards that say, Get Skilled, Save Your Country" (Globe and Mail, Report on Business, 1993).

> "*High Tech Firms Frightened by Skills Shortage...* A Survey by the Canadian Advanced Technology Association (CATA) and Angus Reid Group of 220 CATA members found that 88 percent believe they face a skills shortage" (Canada HR Reporter, 1997).

> "*Skill Shortage Looms:* Is there a shortage of skilled workers at current wages?…Will the shortage continue through the 1990s? Yes, if we do not improve our investment in human capital" (HR Magazine, 1990: 38 [USA]).

Such concerns have prompted a critical re-examination of education by policy-makers. For example, the Economic Council of Canada's report *A Lot To Learn* (1992) notes numerous problems with the education system and accompanying skills shortages as cited by Canadian employers. One conclusion of the report is that "Canadians as a society and as individuals must now give an urgent priority to improving the overall performance of their learning system" (Economic Council of Canada, 1992: 48). A recurrent theme in this and other government reports is that changes need to be made to various components of the education system to meet the needs of the business community, which will ultimately strengthen the Canadian economy.

In light of this, one type of reform which has been called for are greater partnerships between industry and universities. This has been outlined in a number of discussion papers by the federal and provincial governments and other independent groups, all of which have examined possible relationships between the private sector and universities (Canadian Chamber of Commerce, 1990; Conference Board of Canada, 1991; CUCRITA, 1994; Alberta Education, 1996). Together, the calls for such partnerships also reflect a questioning of current higher education curriculum. More specifically, such proposals reflect a recurring view expressed by government and industry that higher education needs to assume a more utilitarian role.

The more precise question about which skills are needed in the workplace has prompted discussion about skill requirements. For example, the Conference Board of Canada has created an *Employability Skills Profile*, which is subtitled the *Critical Skills Required of the Canadian Workforce* (Conference Board of Canada, 1994). In this profile, nine skill types are grouped into three broad areas: academic skills, personal management skills, and teamwork skills. The Conference Board of Canada notes that together, the presence of these skills would "form the foundation of a high-quality Canadian workforce." This skills profile theme has been adopted by others, including Human Resources Development Canada, which has devised an *Essential Skills* profile (HRDC, 1998). Their profile includes nine essential skills including reading text, use of documents, writing, numeracy, oral communication, thinking skills, working with others, computer use and continuous learning. Together, these profiles attempt to articulate which skills will increase the likelihood for individual success in the workplace. As well, especially with the case of the Conference Board skills profile, they attempt to articulate the specific needs of employers.

Concerns about skill shortages reflect a fundamental concern on the part of government and industry with labour quality, and levels of human capital in the workforce. Having its roots in economic theory, *human capital* is defined as an investment individuals make in themselves in terms of education and training. Some of the positive by-products of education and training that are of interest to government and industry are the employment skills that individuals develop. As I will outline in Chapter 2, government interest in labour quality, and specifically the skills of the Canadian workforce is not new, and dates back to the time of early industrialization in Canada in the late nineteenth century. However, it has been since the 1960s that policy-makers have looked to the education system and particularly higher education as an important ingredient for human capital formation. This was revealed by widespread expansion of higher education in the 1960s. It was also at that time that human capital theory gained popularity in the field of economics. A lot of ensuing research in this area consistently revealed that increasing levels of education promised positive economic returns to individuals and to society. In more recent years, while funding levels to higher education have significantly decreased, an interest in human capital formation via the formal education system has continued. This is revealed by critiques of the education system at the policy level, which question the employment skills that individuals take with them into the workforce.

A number of researchers and social commentators have reacted to criticisms from government and industry about presumed skill shortages and the value of education. Barlow (1994) points out that the idea of a graduate skills shortage is a myth; that much present-day criticism has been inaccurate and misleading. For example, she notes that during the 1993 federal election, politicians were quoted as saying that Canada faced a skilled labour force shortage of 300,000 people. In fact, it was later discovered that this number simply referred to job vacancies and was being misused as evidence of skill shortages. In a similar tone, Boothby (1993) questions the moral panic of Canadian government and business representatives about low literacy levels of Canadians. A similar argument is made by Krahn and Lowe (1998). Boothby found both that literacy levels have increased over time in Canada, and that there is no threat of a shortage of literate workers in Canada in the future. These findings run counter to claims made by both the Economic Council of Canada and the Conference Board of Canada that literacy levels in Canada are dangerously low.

Additional skepticism about apparent skill shortages has been expressed by others, specifically with respect to opportunities that exist in the labour market. Noble (1994), for example, notes that the problem today is a labor surplus, not a shortage of skilled labor. He indicates that while many individuals in recent years have become the victims of corporate and government downsizing and restructuring, and simply cannot find work, much current policy is guided by a human capital orientation that calls for highly skilled and trained individuals. Related to this, Taylor (1998) notes that the Alberta government's adoption of an employability skills discourse in recent years acts to focus attention on the ability of schools to prepare students for employment, rather than on the employment practices of employers.

Policy-level reports of skill shortages and a faulty education system generally fail to acknowledge conditions in the labour market. For example, many young Canadians today are facing numerous challenges in terms of employment. Large-scale economic restructuring by governments and the private sector alike has had a serious impact on the Canadian labour market. An examination of youth unemployment over the last twenty-five years confirms some of these difficulties, as unemployment rates have increased steadily, and have remained consistently higher than adult rates (Krahn, 1996). For many youth, employment opportunities are often found in low-wage service sector jobs. As well, for many, such employment opportunities are part-time. Over the past couple of decades, there have been large increases in part-time work among youth. For example, between 1975 and 1994, the part-time employment rate for women age 15-24 rose from 22 percent to 48 percent, while for men in this age category, the rate rose from 17 percent to 38 percent (Krahn, 1996). Therefore, for many youth, employment prospects are often discouraging.

The mismatch between graduates' education and the employment they acquire has been examined in the literature on underemployment over the last thirty years (Berg, 1970; Rumberger, 1981; Smith, 1986, Alpin et al., 1998). More recent Canadian research by Redpath (1994) found that more than one third of university graduates from Alberta and Ontario were working in jobs two years after graduating which did not require their level of educational attainment. Reflecting concerns which were outlined above on labour market opportunities for youth, Redpath concludes that the problem of perceived skill shortages may be more of a problem of inadequate skills utilization. Similarly, Livingstone (1993) found that about one third of all Ontarions aged 25 or under, and more than one third of all Ontarions that had completed post-secondary programs, were underemployed.

Despite criticisms of the apparent labour market value of university education, its value also might be examined in terms of its popularity in society today. For example, since 1970, Canadians have continued to pursue more education. Specifically, for the period 1971 to 1994, total enrollment in Canadian post-secondary institutions almost doubled from 497,000 (173,000 community college and 323,000 university) to 951,000 students (i.e., 376,000 community college and 574,000 university students) (Statistics Canada 1984, 1996). This dramatic increase in enrolment rates has happened while the absolute size of the youth population has decreased. Therefore, despite concerns regarding the education that students may be receiving in post-secondary institutions today, it is interesting that enrolment rates have steadily increased. This provides at least some evidence that university education continues to be valued by Canadians.

Other evidence of the positive value of a university education comes from public perception surveys. For example, a survey conducted at the University of Alberta in 1995 revealed that two-thirds of sample members agreed that students at the University of Alberta receive "high quality education" and that a degree from the University of Alberta leads to chances of getting a "good job" and movement into a "rewarding long-term career" (Krahn et al., 1995). Another public perception study conducted in Ontario in 1994 found that 70 percent of sample members indicated that a university or college education is "very important." Additionally, approximately eight-tenths of Ontario sample members agreed that "the percentage of jobs for which employers require a university degree or a college certificate will increase" in the future (Livingstone et al., 1995). Together, these findings suggest that the general public regards a university education as a valuable commodity in Canadian society today.

Another source for examining how university education may be valued is from outcomes assessment surveys of university graduates. For example, results from the National Graduates Survey, which has examined graduates' satisfaction with academic programs over the last decade, consistently reveal that individuals are satisfied with the educational choices they have made (Clark et al., 1986; Barr-Telford et al., 1996; Little and Lapierre, 1996). Findings from recent exit surveys conducted at the University of Alberta similarly reveal that a large majority of undergraduates were satisfied with their education (Population Research Laboratory, 1992, 1993, 1994). However, one of the drawbacks of student outcome surveys is that they often only provide limited information on graduates' educational experiences. As well, few studies have examined the extent to which university graduates are satisfied with the employment skills that they developed in their programs. Since I would like to examine these issues, along with other existing studies of university graduates in greater depth, I will defer a more detailed discussion of this topic until the next chapter.

Accountability

Concurrent with concerns and criticisms about the value of a university education, universities are being encouraged to do more with fewer resources. Throughout the 1980s and 1990s, academic institutions across Canada have faced budget cuts from provincial governments. Overall, core funding for Canadian post-secondary education between 1993 and 1997 was reduced by 34 percent (*Maclean's*, 1997; p.28). In Alberta, cutbacks by the Klein government for post-secondary grants totaled 21 percent between 1994 and 1996 (Marino, 1995). In light of reduced funding, universities are facing increasing pressures to be more accountable to governments and tax payers. This is reflected in government discussion papers, at the provincial and federal levels, as well as the institutional level (e.g., Ottawa, 1988; Alberta Advanced Education and Career Development, 1994; Nova Scotia, 1994; Ontario, 1996). A focus on accountability has also been prevalent in other Western industrialized countries, such as the United States and Great Britain[1]. The OECD has similarly endorsed the development and use of performance indicators for university assessment over the last decade (OECD, 1987).

Throughout much of this literature, key terms such as "responsibility," "excellence," and "quality" are pervasive and reflect a focus on outcomes, achievement and fiscal efficiency.

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[1] For example, Jarman and Blackburn (1997) provide an overview of how a focus on accountability has developed in Britain's higher education system.

Nevertheless, despite any apparent political rhetoric surrounding the issue, the reality for universities is that new legislation in some Canadian provinces links institutional funding to key performance indicators. For example, in Alberta, such policy was outlined in a 1994 report entitled *"New Directions for Adult Learning in Alberta"* which provided a new framework for post-secondary funding in Alberta. This subsequently led to a 1995 report titled *"A Proposal for Performance-Based Funding: Promoting Excellence in Alberta's Public Adult Learning System"* which outlined the process by which funding would be directly linked to institutional performance (Alberta Advanced Education and Career Development, 1995). This system of performance-based funding, the first of its kind among Canadian jurisdictions, was implemented in Alberta in 1997. Among the initiatives developed by the government, in consultation with post-secondary institutions across Alberta, was a set of "key performance indicators" to measure such things as student satisfaction with programs, student employment outcomes, enrolment rates, program costs and expenditures, and institutional research (Alberta Advanced Education and Career Development, 1997).

It is in this context of accountability that a large number of academic institutions have developed exit surveys to monitor how their graduates assess their programs upon completion. For example, Evers and O'Hara (1996) indicate that approximately half of all Canadian universities conduct exit surveys of graduates. The development of such exit surveys is in keeping with proposals put forward by the Commission on Canadian University Education (Smith, 1991). For example, among other things, the Commission recommended that universities implement a series of student input and output measures in order to assess institutional missions and objectives. In Alberta, the performance-based funding mechanism, mentioned above, specifies that exit surveys of graduates must be regularly conducted (Alberta Advanced Education and Career Development, 1996).

Critics have noted that the use of the quantifiable measures of key performance indicators is generally unrelated to the complex goals of learning, teaching and research in a university environment (Bruneau and Savage, 1995). Others have noted that there are substantial costs associated with many accountability exercises (e.g., teaching and research assessments), including financial costs which must be absorbed by universities, and time lost for faculty members engaged in the process (Jarman and Blackburn, 1997).

As the demand for resources continues for educational institutions, debates about the relative merits of accountability exercises will undoubtedly continue. Nevertheless, the reality is that greater attention is being placed on assessing student outcomes and graduates' perceptions of their educational experiences. In this respect, policy-makers will likely continue to utilize accountability exercises as one mechanism for gauging the value of a university education.

2. Objectives for this Study

The foregoing discussion has outlined the larger political context in which this study is situated. Critical views by government and industry regarding the value of university education essentially question the skill levels that graduates bring with them into the workforce. A number of related factors all direct our attention to the type of questioning and re-assessment that university education has been undergoing, including suggestions of skill shortages, policy initiatives aimed at corporate-university linkages, outcomes-based funding and the development of skill profiles.

While critical views regarding skill deficiencies are not always explicitly directed at universities, many have been. Thus, this study focuses its attention on university graduates, including the skills they acquire, their employment outcomes, and how they value their educational experiences. University education also presents an interesting case because of its history and the many roles that it has played in Canadian society. Due to the more recent re-evaluation of those roles, some have suggested that university education is in a state of crisis (Neilson and Gaffield, 1986; Emberley, 1996).

Given concerns about the employment skills that graduates take with them into the workplace, it would seem that graduates themselves would provide a valuable source for examining the extent of the "problem." That is, an important question to ask is how graduates themselves value their university education and specifically how do they evaluate the skills they developed at university? In fact, only a few studies of graduates' perceptions of their own skill development have been conducted in Canada. This is especially the case for studies which follow-up on graduates several years after they have completed their programs[2]. Examining graduates' perceptions of their university education after they have been in the labour market for a number of years would allow us to see how they value their education in light of their workplace experiences. In the context of institutional accountability, many universities in Canada have devised exit surveys which examine, among other things, graduates' assessments of their education and their skill development. Nevertheless, despite the usefulness of some existing studies, additional insights could be gained by examining graduates' perceptions in greater depth. To date, almost all studies of graduates have utilized a quantitative research strategy, via large-scale survey questionnaires, which sometimes provides limited information on graduates' perceptions of their educational experiences, including their skill development. Methodologically, an interview strategy would provide a useful way to approach these issues as it would provide the opportunity to examine how graduates assess their educational experiences in their own words.

Hence, this study sets out to examine the value of a university education by way of semi-structured interviews conducted with thirty-seven University of Alberta graduates, most of whom completed their degree programs in 1989. The value of a university education is addressed in three ways. First, from a more objective stance, this study will examine the employment experiences of these graduates as a way of assessing how valuable a university education has been for them since they graduated. Second, the value of a university education will be addressed by asking these graduates for their subjective assessments of their university education. Third, the issue will be considered by asking graduates a number of specific questions about their skill development at university, as well as questions about which skills have been most useful for them in the labour market.

While semi-structured interviews, conducted with university graduates, are carried out to examine the value of a university education, another added feature of this study is an examination of these same graduates' perceptions about their university education and their skill development via survey questionnaires that they completed between 1985 and 1992 (i.e., from the time when they were grade 12 students, until after they graduated from university). In this way, it will be possible to examine graduates' perceptions about their university education in an overtime context. Additionally, it will be possible to consider the relative merits of using an interview approach compared to a traditional survey questionnaire approach, for examining graduates' perceptions about their educational experiences.

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[2] The National Graduates Survey provides the best example of a study which has followed-up with graduates several years after they have completed their programs. Additional longitudinal studies have been conducted in Alberta (Krahn and Lowe, 1993) and elsewhere in Canada (Anisef et al., 1996). This literature will be presented in more detail in Chapter 2.

Together, the two data sources used in this study provide the opportunity to consider how graduates value their education and assess their own human capital, specifically their skill development, in a more succinct manner. This in itself constitutes another objective of the study. That is, this study examines the concept of human capital as this applies to returns to post-secondary education, in a more detailed way than have other studies. For example, while a general human capital orientation has often been used by economists to examine the link between post-secondary education and subsequent success in the labour market, little is known about the specific content of the "human capital" that may be acquired by university graduates, particularly in the form of employment skills. Beyond an immediate contribution to the research literature on human capital, this type of information could provide an important source of feedback for policy-makers and academic institutions with respect to the role that universities play in training graduates. Given many concerns which have been raised by government and industry regarding the education that students are receiving in Canadian universities, a study examining graduates' assessments of their education and their skill development in greater depth would seem to be overdue.

Looking ahead, Chapter 2 will review the public policy critiques which have been introduced here, along with other research which has examined the value of a university education. This discussion will include a brief historical overview of the role of university education in Canada. Additionally, a broader theoretical discussion of the role that universities play in society, as well as an examination of how skill has been conceptualized and measured, will be presented. Finally, relevant Canadian research which has examined university graduate outcomes will be presented, along with a critique of the methodologies which have been utilized in these studies.

A discussion of the methodological strategies used in this study will be outlined in Chapter 3. Chapters 4 through 6 present the main findings of the study, namely an examination of employment outcomes of a group of graduates (Chapter 4), an examination of graduates' assessments of their university education (Chapter 5), and an examination of graduates' assessments of their skill development at university (Chapter 6).

Finally, in Chapter 7 the main findings from the study will be summarized in the context of the broader research objectives which have been outlined here. This will include a discussion of the implications of this study for public policy debates on the value of a university education and the implications of the study for university administrators. As well, some discussion of future research opportunities will be presented in light of the findings and the methodological approach utilized in the study.

Chapter 2
Review of the Literature

This chapter situates many of the points raised in the last chapter in a larger theoretical and historical context. For example, in line with public policy debates regarding the type of education that university students are receiving today, a brief historical overview of the role that Canadian universities have played over the last century will be presented. Building on this historical framework, a number of theoretical perspectives which have examined the role that universities play in society will then be outlined. This will include, among other things, a discussion of human capital theory and its relationship to the public policy critiques outlined in the previous chapter. Given that *skill* is the central concept in this study, a number of theoretical perspectives on skill, including how it has been conceptualized and measured, will also be outlined. Beyond this theoretical literature, Canadian research which has examined university students and graduate outcomes will be summarized. In the final section, the role of this study will be considered in the context of this literature. Additionally, a number of research questions that will be considered in this study are posed in the final section.

1. University Education in Canadian Society

Universities have always had a unique role to play in Western society, and the role that they have played in Canadian society is no exception. From their inception in Canada 150 years ago, Canadian universities have been seen both as institutions which promote the socialization of cultural and political values, and also as important ingredients for national economic growth (Axelrod, 1982). Nevertheless, over time, universities have taken on an increasingly utilitarian role. This section will briefly outline some of the historical factors which have conditioned the development of Canadian universities.

For John Graves Simcoe, Upper Canada's first lieutenant-governor in the 1790s, education was paramount for attaining social authority in the new Dominion. Graves perceived the university as a key ingredient for dispensing a liberal education in society that could also perpetuate the 'superior classes' (McKillop, 1994). This perception of the university as a liberalizing entity, at least for the middle class, was related to a traditional European conception of the role of higher education. Early colleges in both English and French Canada had two primary purposes: to train clergy and to provide a liberal (classical) education for future leaders (Harris, 1976).

Nevertheless, despite Simcoe's desire for the development of a Canadian university, one which would be modeled on existing British institutions and the Anglican church, the first Canadian universities were not officially established until the mid-nineteenth century[1]. Many institutions of higher learning at this time were operated by denominational bodies, educating a relatively small percentage of the Canadian population. However, with a need for government funding, and at a time when industry was developing in Canada, many universities severed their ties with the church in the ensuing decades. Early universities in both English-speaking and French-speaking Canada typically consisted of four faculties: arts, law, medicine and theology. Thus, even at the time of their early development in Canada, universities played a role in training individuals for certain professions.

Due to rapid industrialization in the latter half of the 1800s, the apprenticeship style of training in the Canadian workplace was losing appeal as a result of new factory production techniques. As a result, the educational system was increasingly looked to for its vocational and instrumental potential (Stamp, 1972). As the nineteenth century drew to a close, the Canadian education system, including higher education, was being challenged to adapt to the needs of industry. Nevertheless, this development was not unique to Canadian academic institutions. For example, Lynton and Elman (1987) suggest that American universities similarly assumed a more utilitarian role throughout the course of the nineteenth century.

Although some critics at this time noted that a narrow focus on vocationalism threatened the virtues of a traditional liberal education, the focus on a more instrumental role for higher education continued into the twentieth century. Part of this incentive came from industry itself, and some of its concerns were directed at the education system more generally. For example, an article from 1905 in the Canadian Manufacturers Association journal *Industrial Canada*, outlined the needs of industry for a trained workforce. Their calls for "skilled help" are reminiscent of calls for skilled labour that have been voiced by industry and policy-makers in recent years.

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[1] In 1850, the University of Toronto (formerly King's College) became the first Canadian university, despite the fact that a number of colleges had existed in French and English Canada since the 17th century.

> Where, then, is the training ground from which we are to recruit our department foremen, our factory superintendents, and the men who are to guide and direct the practical side of our national industries?...The skilled help problem is rapidly becoming the most serious problem which the manufacturer is called upon to contend with (CMA, 1905).

Despite these concerns from business leaders, much of the impetus for a vocational dimension of the education system came from government. Reflecting this, Stamp (1972) argues that the federal government has provided the most important catalyst for vocational education in Canadian schools over the course of the last century. In the early decades of the 1900s, this occurred both in the secondary school system and in higher education. For example, legislation such as the Industrial Education Act in Ontario in 1911 and the federal government's Technical Education Act in 1919 encouraged the development of secondary and higher educational programs directed at vocational pursuits. Thus, curriculum was designed to some extent with the needs of industry in mind. Many of these policy initiatives resulted from the belief that investment in education would lead to greater economic growth.

The perceived link between education and economic prosperity was also recognized in the early decades of the twentieth century for its benefits to the individual. For example, a 1925 article in *Maclean's* magazine on university-bound students indicated that,

> Each day in High School adds $25.00 to his life's earnings.... A university education affords advantages over those afforded by a High School education as impressive as those of high school over a public school education (OSSTF, 1925).

The growth of higher education slowed in the Depression years of the 1930s. However, after the Second World War enrolment increased significantly because of returning veterans and an agreement from government to subsidize their education. For example, total university enrolment across the nation more than doubled from 38,516 in 1944-45 to 79,346 in 1947-48 (Harris, 1976).

Throughout the 1950s, public consciousness over the value of education grew steadily (Axelrod, 1982), echoed by government reports and policy initiatives. The *Royal Commission on the National Development of the Arts, Letters and Science*, better known as "the Massey Report" (Ottawa, 1951), recommended greater state funding for universities. This in turn led to the tradition of direct and indirect government funding in Canada (Gregor, 1992). As well, reflecting a focus on the economic value of higher education, a 1957 government report on Canada's economic prospects indicated that universities "are the source of the most highly skilled workers whose knowledge is essential in all branches of society" (Ottawa, 1957).

A number of factors at this time helped to focus the attention of government on the need for growth in higher education, including rapid technological changes in the post-war years, shifts in the occupational structure, and decreasing immigration of "skilled" labour (Stamp, 1972). Along with the influx of the baby boom generation, this resulted in the "golden age" of expansion for Canadian higher education in the 1960s. Policy initiatives such as the Technical and Vocational Training Assistance Act in 1960 provided great stimulus to vocationally-oriented education in Canada (Stamp, 1972). Additional policy initiatives, which developed more scholarships and grants and the availability of student loans, increased accessibility for individuals to post-secondary education (Uhl and MacKinnon, 1992). With significant increases in government funding, universities and community colleges expanded or were created. For example, fifteen new universities were created in Canada between 1960 and 1969. Reflecting this, total university enrolment tripled to approximately 300,000 by 1970. Expansion of higher education in the 1960s rested on the belief of greater economic benefits to the nation and to the individual. In many respects, this expansion grew in the context of growing faith in the precepts of the human capital model of the economic returns to education (Anisef and Axelrod, 1993).

As noted earlier, enrolment in Canadian post-secondary institutions steadily increased after 1970. For example, by 1994 approximately 574,000 students were enrolled in Canadian universities (Statistics Canada, 1996). However, higher youth unemployment rates were also observed, beginning in the 1970s, which caused many to question the principle that higher levels of education would lead to greater economic returns (i.e., human capital theory). At the same time, government funding for higher education was reduced in the 1970s and into the 1980s, a reduction which significantly curtailed the development of new post-secondary institutions that had begun more than a decade earlier.

High youth unemployment rates continued into the 1980s as a result of the economic recession that Canada experienced at the beginning of that decade. Consequently, some looked to universities and other post-secondary institutions as a solution to the unemployment problem. In the context of increasing global economic competitiveness and new emerging technologies, universities and community colleges were seen as the possible source of an indigenous highly skilled workforce (Gregor, 1992). For example, in the early 1980s the Corporate-Higher Education Forum was developed, an organization made up of executives of large Canadian corporations and high-level administrators of Canadian universities. Lloyd Barber, president of the University of Regina and a member of the Corporate-Higher Education Forum, outlined his thoughts on the creation of the Forum on a CBC morning program in 1985. He noted that the development of the Forum allowed:

> ...twenty-five university Presidents to sit down on a regular basis with twenty-five corporate Presidents to see where the system [i.e., Canadian universities] can be tuned up to improve the economic performance of the country at a time when this kind of...thrust is extremely important (Newson and Buchbinder, 1988; p.7).

Thus, over the last several decades, in the context of increasing global economic competitiveness, technological developments and high levels of youth unemployment, there have been calls for reforms in Canadian post-secondary education. As noted earlier in this chapter and suggested by Barber's comments above, this has included calls for greater links between post-secondary education and the labour market (Alberta, 1996; Conference Board of Canada, 1991, 1998). But in many respects, such calls, although vocal, are not new. As suggested by the previous discussion, there has been a focus on the need for vocational pursuits in higher education and the Canadian education system more generally since the late nineteenth century (Stamp, 1972). Canadian governments, both federal and provincial, have consistently looked to universities and other post-secondary institutions for their ability to serve industry and the economy. As already noted, part of this instrumentalist ideology resulted in the golden age of expansion for Canadian higher education in the 1960s.

The result of suggested educational reforms is that over the last fifteen years numerous researchers have discussed a state of "crisis" and a "new agenda" for Canadian universities (Bercuson et al., 1984, Neilson and Gaffield, 1986; Newson and Buchbinder, 1988, 1990; Smith, 1991; Emberley, 1996). A commonly shared view is that this crisis is primarily economically based and reflects the financial struggles that universities have faced in light of government retrenchment policies over the last twenty-five years. As well, there has been debate about the role that universities are to play in society. It is within the context of this debate that the various policy-level criticisms directed at higher education are situated. What is often questioned is whether universities should be focusing their efforts on providing an education which is more specifically oriented to jobs in the labour market, or whether universities should be providing students with a broad, generalist education. This question is addressed in this study by examining the opinions of university graduates about their university education. However, before turning to this question, the next section examines the roles that universities might assume in society in a broader theoretical context.

2. The Role of Higher Education: Theoretical Perspectives & Empirical Investigations

The previous chapter presented some of the criticisms which have been directed at post-secondary institutions, specifically with respect to the value of a university education. Some of the public policy concerns question the ability of universities to supply the labour market with individuals who have valued and necessary skills. Such concerns raise the broader issue of the type of role universities should play in society. A fundamental assumption of some critiques is that university education should primarily serve economic interests in society. One specific approach, human capital theory, is particularly relevant here as it considers the relationship between formal education systems and economic development. Others support the view that universities should primarily cultivate intellectual and moral development in individuals, independent of direct economic interests. As I will outline, both approaches have theoretical links to functionalist theories of education in sociology. Besides these approaches, still others contend that university education, and the education system more generally, reproduces inequalities and the values of dominant social classes in society. Some of these "conflict" approaches will also be outlined.

a) Human Capital Theory

The policy-level criticisms which were outlined in the last chapter, and specifically those which question the skills that graduates bring with them into the workforce, reflect a theoretical position consistent with *human capital theory*. Developed in the field of economics, this theory attempts to account for how the education system serves the economy.

The fundamental principles on which human capital theory rest are not new and date back to Adam Smith's *The Wealth of Nations* (Smith, 1952). For example, Smith believed that the skills of the labour force were fundamental for economic progress (Cohn and Geske, 1990). Smith argued that fixed capital (and human capital) refers to:

> the acquired and useful abilities of all the inhabitants or members of the society. The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belongs. The improved dexterity of a workman may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which, though it costs a certain expense, repays that expense with a profit (Smith, 1952: 119-120).

Despite some reference to human capital by economists in the eighteenth and nineteenth centuries, it was in the latter half of this century that the theory gained prominence in labour and educational economics research (Mincer, 1958; Schultz, 1963; Becker, 1964; Blaug, 1965). As Becker (1964) suggests, some of the motivation for research on human capital in the 1960s resulted from an interest in explaining international income differences, a long-standing interest in explaining the personal distribution of income, increases in expenditures on education and health at the time, as well as a concern with growing unemployment.

Research on human capital has largely attempted to assess the benefits of education for the individual and society. For example, the theory attempts to explain income differences in the labour market by focusing on labour quality, or the skills and knowledge of individuals, which may be acquired via formal and informal education. *Human capital* itself refers to the amount of investment an individual makes in him or herself by such means as education, training or money (i.e., forgone earnings). A general proposition of the theory is that a greater amount of education and training, and therefore greater knowledge and skills, leads to greater human capital. A key idea is that such investments on the part of the individual may lead to anticipated pecuniary gains in the future. As a result, individuals with greater human capital can expect, on average, higher earnings. From the perspective of the employer, individuals with more human capital are of potentially greater worth since they are believed to have more productive value. Similarly, society will benefit from the productive value of a more educated population. Reflecting its link to functionalism, it is suggested by human capital theory that certain skills and knowledge are needed for highly valued jobs in society; that is, those that make a greater contribution to the economy. As well, the theory adopts the meritocratic principles of ability and equality of opportunity as the means by which individuals acquire necessary skills through the education system.

To help substantiate some of the fundamental elements of this perspective, economists have utilized rate of return analysis or benefit-cost analytic techniques to estimate returns to investments in education. The emphasis in such calculations is on economic returns. Much of this research has focused on returns to investments in higher education. Over the last half century, economists have calculated the internal rate of return to investment in education for an individual (i.e., private returns) and the economy as a whole (i.e., social returns)[2].

Findings on returns to education since the 1960s have generally revealed a positive relationship between education and earnings, for private and social rates of return. Leslie and Brinkman's (1988) meta-analysis of American studies revealed that, over the period 1939-1980, the mean rate of individual returns to university education was 11.8 to 13.4 percent annually. However, research findings reveal that rates of return to investments in education vary by place, by time period, and also the methodology used to calculate such returns. For example, Psacharopoulos' (1973) international review of the literature in the early 1970s revealed that individual rates of return to higher education by country varied from 8 percent (Norway) to 37 percent (Kenya).

As noted, there is evidence that the time period being analyzed also plays a factor in rates of return. For example, decreases in rates of private returns to university education were reported in the

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[2] An overview of the calculations used to estimate private rates and social rates of return are found in Becker (1964), and Psacharopoulos (1973).

1970s (Freeman, 1975), creating renewed debate about the economic value of higher education. Canadian economic research by Stager (1996) similarly revealed a decrease in rates of return from 1960 (17.4 percent), to 1970 (12.2 percent), to 1980 (9.9 percent). However, subsequent research by Stager (1989) found that there was a reversal in these rates of return by 1985 (i.e., 14 percent), and that these rates were practically the same in 1990 (Stager, 1996). Similar increases in rates of return to education were reported in the United States in the 1980s (Cohn and Hughes, 1994).

Although developed in the field of economics, human capital theory has strong links with functionalist theories of education in sociology. For example, both theories emphasize the opportunities which are available in society to acquire skills and knowledge necessary for economic development (Mulkey, 1993). An important assumption of functionalism is that through the education system individuals learn the key norms, such as independence and achievement, which are essential for integration in society. In this respect, the school system acts as an important transformation mechanism between family life and adult life in modern industrial society (Dreeben, 1969). As an important advocate of functionalism, Parsons (1959) noted that dominant cultural values such as achievement, universalism, and equality are embodied and played out in the school system. Through formal education, students are socialized with these values which are functional requisites for the maintenance of society. Extending on this, functionalists have argued that the ability of schools to teach the goals of equality of opportunity, rewards based on achievement (i.e., as opposed to ascription), and tolerance of diversity, have led to a modern, integrated, meritocratic society. Reflecting its link with functionalism, human capital theory similarly subscribes to meritocratic principles in society, specifically the effects of individual ability on returns to education, as opposed to ascriptive characteristics (Mulkey, 1993).

Critics of human capital theory are found within the field of economics and outside of it as well. It is noted that one problem with this perspective is that the realities of the labour market are such that not all highly skilled, educated and trained individuals are able to secure highly valued jobs; that is, those that require greater human capital (Krahn and Lowe, 1993a). For example, while there have been dramatic increases in educational levels over the course of this century, there has not been an accompanying increase in the returns to education in the form of highly skilled jobs. As such, it is argued that human capital theory overlooks the conditions of the labour market which may give rise to differential rewards. In this respect, the theory is criticized for being narrowly focused on the supply of skilled labour. Similarly, it is noted that by focusing on individual merit as a predictor for occupational success, human capital theory tends to ignore the inter-generational transmission of advantage for some individuals. Thus, the meritocratic principles on which the theory is based may be questionable as other factors (i.e., labour market conditions, family status) may be better predictors of returns to education.

Additional criticisms of human capital theory have been raised within the field of economics itself. For example, in the 1970s a number of researchers noted that the positive relationship between education and increased earnings did not result from increased skill levels (or increased productivity) on the part of individuals, but rather from an increase in credentials (Spence, 1973). Specifically, it was argued that education largely acts as a signalling or screening device for employers. That is, rather than imparting individuals with skills and knowledge, it was noted that the education system simply provided individuals with marketable credentials.

However, criticisms of the screening hypothesis itself have been raised. For example, as Blaug (1985) points out, employers' reliance on educational credentials in the recruiting process may prove costly in the long term if not supported by other evidence of employee aptitude. Additionally, advocates of the screening hypothesis tend to overstate the effect of educational credentials, and understate individual skills and knowledge which may be of value and legitimately acquired through education.

Furthermore, rate of return analysis, which has largely represented the empirical application of the theory, has been criticized for only taking into account objective economic factors and for ignoring such things as innate abilities of individuals, plus additional non-monetary benefits to individuals and society. As well, it is noted that data on earnings are historically based, and may not represent future earning (Stager, 1996).

An additional criticism of human capital theory that is pertinent to this study is that, at an individual level, it does not consider what elements of the educational experience, and specifically which skills are instrumental, when examining positive returns to education. That is, it is generally assumed that a greater number of years in formal education is positively correlated with the development and acquisition of skills and knowledge. While this may in fact be true, empirical research which has tested the theory generally only provides information on educational outputs in the form of earnings. Little is actually learned about the "human capital" that individuals may acquire. In this respect, the very idea of human capital itself remains unexamined, somewhat like a black box. While the theory assumes that individuals acquire productive value through formal education, it makes no attempt to articulate what skills and knowledge are of value when individuals leave the education system and enter the labour market. The result is that "years of schooling" is treated as a proxy for "skill development." While a relationship likely exists between these variables, researchers who have tested the human capital model have generally not emphasized that this relationship should be better articulated. As well, policy-makers and business leaders who contend that graduates lack necessary employment skills similarly fail to articulate what dimensions of human capital (i.e., skills and knowledge) are deficient in graduates. The problem with such oversights is that there may be legitimate employment skills that graduates do develop which may go unacknowledged, and yet are highly valuable for employers. The current study addresses this gap in the literature by examining more fully what employment skills university graduates indicate that they developed in their academic programs.

b) Other Perspectives on the Value of Higher Education

Other perspectives have emphasized additional contributions that higher education makes to individuals and society. This includes research which has examined the role that higher education plays in enhancing intellectual and moral development, including its effects on values and attitudes (Feldman and Newcomb, 1969; Bowen, 1977; Pascarella and Terenzini, 1991; Astin, 1994). This body of research also reflects a functionalist theoretical orientation as it examines how education functions to enlighten individuals, such that they will assume appropriate cultural values necessary to the maintenance of society.

The liberal arts conception of university education can be examined in this light. A liberal arts perspective on education dates back almost two thousand years, to the writings of Cicero and Quintilian in the Roman Republic and Empire. Based on their influence, a liberal education curriculum was developed in the Middle Ages, organized around the *trivium* (logic, grammar, rhetoric) and the *quadrivium* (arithmetic, geometry, astronomy, music). This curriculum was subsequently expanded in the thirteenth century to include three forms of philosophy: natural (physics), moral (ethics), and meta-physical (mental) (Vanderleest, 1996). The modern conception of a liberal education stresses the development of intellectual skills and knowledge and of personal qualities of character and judgment. Since the Second World War, this has often been achieved in university programs which emphasize both breadth and depth of understanding, and which stress general as opposed to vocational education (Storm and Storm, 1996).

Some educational researchers have utilized more empirical means to examine the effects of education on individual attitudes and values. A large body of research in the latter half of this century has found a positive relationship between education and social and political attitudes. The predominance of such findings led to Hyman and Wright's conclusions that:

> Many measurements on thousands of adults aged 25 to 72, drawn from 38 national sample surveys concluded from 1949 to 1975…establish that education produces large and lasting good [i.e., liberal] effects in the realm of values (1979: 60).

A number of researchers have specifically looked at the impact of higher education on individual attitudes, values, and psychological well-being. Feldman and Newcomb's (1969) review of the literature of the impact of college on students found that individuals become less prejudiced, less dogmatic, and are more liberal in their attitudes towards public issues. Bowen's (1977) review of the literature a decade later revealed that higher education positively influenced tolerance and understanding towards minorities and people with different opinions, as well as psychological well-being. More recently, Astin (1994) found that exposure to higher education leads to higher levels of social activism (i.e., participating in the community, helping others in difficulty, and influencing social values and the political structure). As well, Sorensen (1998) examined the role that university education plays in shaping the social attitudes and values in students. Her research found that exposure to a university education had a liberalizing effect on a range of attitudes. This included more liberal attitudes towards social problems, racial minorities and traditional gender roles.

Despite the apparent liberalizing effect of higher education on attitudes and values, other research has revealed contrary findings which casts some doubt on the predominance of the positive findings. For example, Jackman and Muha's (1984) review of the literature found that education did not have a liberalizing effect on class attitudes and values. Weil (1985) also found that the presumed effects of education on liberal attitudes were not universal, but differed cross-nationally. Together, such findings point to the complexity of measuring the impact of education on personal development. For example, Jackman (1973) found that the apparent influence of education on liberal attitudes reflected a response set effect rather than a positive relationship on values. Feldman and Newcomb (1994) similarly note some of the inherent measurement difficulties (i.e., testing procedures and sampling) when examining the impact of higher education on attitudes.

c) Conflict Approaches

In contrast to the approaches discussed above, other researchers adopting a conflict perspective have argued that the educational system has perpetuated class divisions in society (Milliband, 1969; Carnoy, 1974; Bowles and Gintis, 1976). This includes a body of Canadian research on the political economy of education (Clement, 1974; Schecter, 1977; Livingstone, 1985; Wotherspoon, 1987). This research is relevant to a discussion of the role of university education since it attempts to explain how educational outcomes are distributed in an industrial capitalist society.

A commonality among conflict approaches is the concern for understanding educational inequalities. For example, it is noted that educational institutions at all levels play a conservative role in legitimating the values of the dominant classes (Milliband, 1969; Althusser, 1971). Reflecting this, Bowles and Gintis (1976) provide a concise historical account of the education system in the United States to show how it has contributed to social inequalities over time. Their work also takes issue with the functionalist and meritocratic position that positive returns to education are related to inherent differences of intelligence and ability.

Pierre Bourdieu (1977, 1986) offers another critical position on returns to education, as this relates to how groups are stratified in society by virtue of the transmission of culture through the education system. More specifically, Bourdieu outlines how *cultural capital* is rewarded in the education system. Cultural capital refers to the values, behaviours, language and preferences of dominant societal groups. As such, those individuals who have a background consistent with the dominant groups (i.e., middle and upper class) are placed at an advantage since it is this culture which is reinforced through education.

Collins (1979, 1990) provides another critique of the education system in modern industrial society. Adopting a neo-Weberian stance, Collins argues that the increase in educational requirements demanded by employers in the latter half of this century points to a system of educational credentialism. Specifically, Collins takes issue with the technological functionalist perspective on education. This perspective contends that technological change in industrial society is largely responsible for the need for higher educational credentials. Collins notes that there is little evidence which supports the claim that higher levels of education lead to greater productivity or economic development. Instead, he argues that the main purpose of education in Western industrial society is to offer credentials to certain status groups which compete for entry into occupations. Furthermore, Collins (1979, 1990) argues that it is through educational credentialism that more lucrative professions such as medicine, law, and engineering have developed a system of market closure which restricts entry to their professions.

Both the work of Bowles and Gintis (1976) and Collins (1979) reflect the arguments of the screening hypothesis in economics[3] discussed earlier. For example, both take issue with the human capital model which proposes that higher levels of education lead to greater economic productivity. Instead, their research highlights the importance of educational credentials which are used by employers as a proxy for desirable worker traits and values. Bowles and Gintis point out that educational achievement acts to legitimate authority for dominant social groups.

A criticism of some conflict approaches (e.g., Bowles and Gintis, and Collins) is that they emphasize the transmission of dominant values via education and often de-value the ability of education to transmit legitimate and valuable forms of knowledge. However, it must be recalled that the theoretical starting points of these theorists are fundamentally different from that of functionalists and human capital theorists. While the former base their explanations on inherent conflict in society, the latter endorse a systems approach and look to factors which enable integration.

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[3] Blaug (1985) notes that the work of Bowles and Gintis had an impact on research in the economics of education, by offering a contrary explanation (i.e., screening) for positive returns to education.

Generally, conflict or reproduction theorists take issue with functionalist accounts of the role of education, and contend that the education system largely perpetuates class divisions in society. Nevertheless, this perspective does not necessarily preclude any liberalizing effects of education, as noted by functionalists and human capital theorists. For example, Sorensen's (1998) research found that while a university education does have a liberalizing effect on the social attitudes of students, it does not have the same effect on economic values. Similarly, while individuals may become more liberal because of their university experience, their degrees provide them with greater occupational mobility compared to those individuals who do not have a university education. Besides greater occupational opportunities for those with degrees, human capital theorists have found that higher levels of education lead to greater economic returns (Leslie and Brinkman, 1988; Stager, 1996). Whether this is a result of skill acquisition as human capital theorists would maintain, or because of credentialism as noted by Collins, a university education does often lead to more advantageous employment outcomes, at least with respect to remuneration. For example, five years after graduating, 1986 Canadian university graduates were earning on average approximately 21 percent more than career/technical graduates and 32 percent more than trade/vocational graduates (Barr-Telford et al., 1996). The result is that while university students may become more liberal in their attitudes and social values, a reproduction of the class structure occurs because of the relative opportunities afforded to individuals with and without a university degree. In this sense, explanations of the role of higher education adopted by human capital theorists and functionalists as well conflict theorists are not necessarily mutually exclusive.

Nevertheless, despite the important contributions and critiques of education systems developed by conflict theorists, such an approach is not adopted as a theoretical starting point in this study. This is particularly the case for how the development of skill, via formal educational systems, is perceived. For example, this study does not subscribe to the view that positive returns to education are largely a result of "screening" or "signaling" cues for employers, although it does acknowledge that this process may exist. Rather, this study supports the view that skill development, or the development of human capital can function to provide positive returns to education for individuals and society, both economically and non-economically[4]. However, as noted earlier, this study attempts to go beyond the status quo human capital approach which utilizes educational levels as a proxy for skill levels. It does so by considering more fully what form this human capital takes for university graduates, or in other words, by examining which skills they acquired in their academic programs.

The current study also assumes a position consistent with human capital theory because of criticisms that have been expressed by policy-makers and business leaders that graduates today lack necessary employability skills. Such criticisms are aligned with a human capital position, as they look to formal education for its ability to serve the economy and society. Nevertheless, criticisms that levels of human capital among graduates are deficient fail to articulate what these deficiencies entail in terms of specific employment skills. In fact, very little research has been carried out in this respect. Thus, this study attempts to more fully examine whether "human capital" is really acquired by university students, and to possibly better explain what form it takes. As has been suggested, a better understanding of the types of employment skills that individuals acquire in their university programs, and take with them into the workplace, would be achieved by considering what graduates themselves value in their university education. Nevertheless, one of the problematic issues in this quest is how *skill* itself is conceptualized and measured. The next section specifically addresses this theoretical and operational issue.

3. Perspectives on Skill

a) The meaning of skill

> ***Skill:***
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> ***noun; the ability to use one's knowledge effectively and readily in execution or performance; dexterity or coordination especially in the execution of learned physical tasks" (Webster's, 1977)***
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> ***noun; expertness, practised ability, facility in an action or in doing or to do something (Oxford, 1978)***

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[4] This position, aligned with human capital theory and functionalism, is primarily directed at Western, and particularly North American formal educational systems. For example, the proposed association between education and economic development has not always been supported by data from developing countries (Brookover and Erickson, 1975).

Skill is an important component of this study since it focuses on the skills which are presumed to be needed in today's global and high-tech information society. Nevertheless, the term skill is problematic due to its different meanings. Many researchers note the difficulty in defining the term, and determining how it should be measured. Both the definition and measurement of skill take on different interpretations depending on the theoretical positions and contextual factors that are used to frame the concept. This section will outline some of these interpretations, and will also address how they are related to an important emphasis in this study; i.e., the skills that may be acquired through a university education.

Exploring the semantics of the word, fundamentally *skill* is a noun, while descriptive variations on the word are adjectives. Used as a noun, skill becomes an objective *thing*. The idea that skill is a thing has implications both for how it is conceptualized and how it may be measured. More will be said about this later. Used as an adjective, variations on the root word skill, (as in *skilled*, *skillful*, *skill-less*) are frequently used to describe individuals and/or the roles they occupy. This might include occupational roles such as mechanics, doctors, salespeople, athletes and musicians, to name just a few. Descriptions of this nature are made in reference to the actions that individuals perform in their defined roles. These skill-related descriptions may be modified by additional adjectives such as "*great*" (as in great skill), prefixes such as "*un*" (as in unskilled), and suffixes such as "*-ful*" and "*-less*" (as in skillful and skill-less) to connote qualitative differences in the nature of the skill.

With respect to the etymology of the term, Kraft (1986) points out that skill has been in use in the English language since the thirteenth century and originally meant *division* or *degree*. The modern English use of the term appeared with more frequency throughout the 18th and 19th century. Kraft indicates that more frequent usage of the term in the 19th century coincided with a frontal attack on craft work organizations by capitalist entrepreneurs and managers. For example, he points out that Adam Smith suggested that traditional workers could be replaced by "hands" who possessed varying degrees of skill.

What is suggested by Kraft's historical examination of the term, as well as its being a noun in the dictionary sense, is that skill is inherently scalar. As such, it is conceptualized as a *thing*, and something which individuals may possess more or less. The connotation of skill as an ability or characteristic of some type suggests that judgment and subjective perception, which are open to much debate, are a necessary feature of any usage of the term. Therefore, our understanding of workplace skills must acknowledge their inherently subjective nature. Gaskell notes that "the process of evaluating skills is a highly political, contextual and ideological one" (1991; p.143). Broadly speaking, to make assessments about skill and skill levels necessitates that one is aware of how it is being defined and measured.

While it is widely used, I will utilize the term in this study to mean *employment skills*, or skills which are applied or acted upon in a workplace setting. Nevertheless, just what is implied by employment skills may also be open to debate. For example, while employers often utilize skill profiles when hiring and assessing the performance of employees, certain skills which fall outside of job descriptions may be vital for individuals in the workplace (Darrah, 1994). These tacit skills, or the informal knowledge that may be learned in interaction with co-workers on the job are often unacknowledged and unrewarded (Krahn and Lowe, 1993a). Similarly, while post-secondary graduates may be assessed in terms of traditional skill outcomes (e.g. communication, reasoning skills), they may have acquired additional skills in an academic setting which are not acknowledged. Among other things, this study attempts to address this issue.

Theoretically, skill has been conceptualized by social science researchers in two different ways: (1) as a characteristic of individuals; and (2) as an inherent part of jobs and the organization of work. Contrasting these two broad conceptualizations (*skill in individuals* versus *skill in jobs*) acts as a good starting point in understanding how skill has been theorized.

The first view, that skill is a property of individuals, an inherent trait or learned ability, has a strong relationship to human capital theory. The policy-level criticisms directed at educational institutions including universities regarding apparent skill deficiencies in students, as well as some of the media reports cited earlier, all adopt this perspective on skill. Theoretically, the *skill in individuals* perspective illustrates how skills may be valued for their functional capabilities. This may include how specific skills are independently valued in society, and also how the sum of a number of skills that workers bring to the workplace function together to accomplish tasks. In some respects, the development of skill profiles by the Conference Board of Canada and Human Resources Development Canada illustrates this functional view of skill types.

In terms of certain types of employment skills which may be brought to the workplace by individuals, some have made a distinction between basic skills, general workplace skills, and job-specific skills (Krahn and Lowe, 1993c; Ontario, 1990). *Basic skills* refer to general types of skills such as mathematical ability, reading, writing, the ability to learn, and communication. *General workplace skills* refer to generic technical skills, analytic problem-solving skills, and interpersonal and teamwork skills. Finally, *job-specific skills* refer to skills which are specifically germane to particular jobs and occupations. While the first two types of skills are deemed to be more portable in terms of their relevance to a wide range of job types, job-specific skills are obviously not as readily portable. However, while there is a distinction between the types of skills that individuals bring with them into the workplace, they all reflect examples of human capital.

On the issue of the application of skills, philosophers of education have debated the transferability of particular skills learned through formal education across disciplines and into different social contexts such as the workplace. Many have been skeptical of the ability to transfer such skills because of the specific context in which they are learned (Hirst, 1974; Barrow, 1987; McPeck, 1987). Bridges (1993) on the other hand, argues that it may be possible to identify skills which can be applied to a range of social contexts such as the workplace.

In contrast to the *skill in individuals* perspective, the *skill in jobs* perspective receives greater attention in sociology, given its concern with the relationship between social structure and roles (Spenner, 1983). For example, various features of jobs such as level of task complexity, level of autonomy, level of responsibility, and amount of training required, have all been used to define the skill levels of jobs. This approach allows for more historical and cross-cultural comparisons and has been fundamental in analyses of the changing nature of the occupational structure in industrial and post-industrial society (Bell, 1973; Braverman, 1974; Form, 1987; Myles, 1988, Gallie, 1994; Coffield, 1996). Here, the specific focus on skill shifts from individual ability and responsibility to the types of opportunities that are available in the labour market. Such analyses have examined, among other things, how the implementation of new technologies in the workplace, as well as how work is structured by employers, has broader implications for how work is executed at an individual level.

As Vallas (1990) points out, the *skill in individuals* perspective generally utilizes skill as an independent variable, often as a predictor of wage levels. In contrast, the *skill in jobs* conceptualization typically utilizes skill as a dependent variable. For example, sociologists generally utilize skill in this way when examining changes in the skill levels of jobs over time.

b) Sociological Research on Skill

In addition to the broad distinction between skill as an individual trait or as something inherent in jobs, sociologists have examined skill from a variety of other theoretical positions. Attewell (1990) provides a useful typology for categorizing skill-related research in sociology. The four theoretical perspectives in this typology include: positivism, Marxism, social-constructionism, and ethnomethodology. I will briefly summarize this typology as it provides a useful way of classifying sociological research on skill. In addition, I will briefly re-introduce the human capital approach to skill, as the research conducted in this study is more oriented to this perspective.

The first theoretical perspective in Attewell's typology is positivism. This perspective assumes that skill is an objective *thing* which can be measured primarily through quantitative research strategies. As Attewell points out, one theoretical dilemma for positivists is whether skill is inherent in individuals or job content. A corresponding problem is that there is not always agreement over which measurement indicators of skill should be used.

Marxism provides another framework from which skill has been analyzed. Unlike some economic orientations, in which skill is perceived as an individual characteristic[5], the main argument for Marxists is that skill is related to the power dynamics that exist in capitalist society, and involves a question of control over the work process. It is argued that with increasing mechanization and automation in modern industrial society, a corresponding division of the physical and mental execution of work tasks developed. As a result, control of the work process was gradually appropriated from workers, leading to alienation. A problem with this perspective is that loss of control is often equated with "unskilled" work. Therefore, it could be deduced that all workers are viewed as having little autonomy or control of their work, a proposition that may well not be true.

In *Labour and Monopoly Capital,* Braverman (1974) took up Marx's position and situated it in a more contemporary context while remaining committed to the idea of loss of worker control. Braverman described the decline in inherent skills of occupations in modern capitalist societies. In contrast, Blauner (1964) and Bell (1973) were more optimistic about the future of work in a post-industrial society, noting that advances in technology and expansion of the service sector would require a potentially more knowledgeable and skilled workforce. The broad distinction between these two orientations is one of deskilling versus upskilling. Theoretically, these perspectives are aligned with Marxism, labour process theory and de-industrialization in the former, and post-industrial theory in the latter.

A social constructionist or neo-Weberian approach offers another sociological position on skill. Here, skill is viewed as something which is defined and re-defined by social actors over time. Social constructionists argue that there is a need to understand how and why occupations are imbued with status, and assumed to have different levels of skill. As well, they argue that certain occupations develop a raised status over time which is driven by market-based (supply and demand) and ideological factors (Collins, 1979)[6]. Feminist scholarship has added to the social contructionist perspective on skill by pointing out that historically, occupations and their corresponding skills have been differentially associated with gender. This literature has been important for its contributions to policy debates on pay equity and comparable worth. For example, Gaskell (1991) has examined the social processes which have shaped evaluations of women's work over time. Specifically, she notes the gender bias inherent in the valuation of certain types of skills. Gaskell indicates that some skills are linked to specific "female" occupations, and have historically been rewarded with less pay and less status. Steinberg (1990) has similarly examined the relationship between gender and skill in comparable worth debates and has described how definitions of skill are often socially constructed in the workplace and in policy.

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[5] Becker's (1964) human capital theory is one example from economics.

[6] Collins' (1990) discussion of "market closure" also provides an example of this.

Ethnomethodology offers another perspective on skill, attempting to strip away traditional notions of value which are associated with skill, and to understand all human activity for its own sake. One important challenge that ethnomethodologists make to traditional (i.e., positivist) attempts to measure skill is with respect to the observer's point of reference. Here, the traditional view that esoteric activities are more complex than routine ones, is reversed. For example, it is noted that once a skill becomes routine, it is often devalued and taken for granted (Schutz, 1970). In contrast, ethnomethodologists have attempted to show that all social activity is highly complex, including everyday "mundane" tasks (Garfinkel, 1969). With respect to studies on the workplace, researchers have documented the substantial skills inherent in seemingly "unskilled" work (Kusterer, 1978; Harper, 1987).

While these theoretical positions provide alternative ways of conceptualizing skill, once again the tendency in sociology is to examine skill as a feature of jobs, as a way of examining changes in the occupational structure over time. This is particularly the case with the position taken up by Braverman (1974) and other conflict theorists, and the social constructionist position adopted by Gaskell (1991). In contrast, this study examines skill as something embodied in individuals, or as human capital. That is, in the context of the education system, and specifically university education, it is assumed that students do acquire employment skills through their academic programs which may provide positive benefits to themselves after they enter the labour market, as well as benefits to their employers and society. As has been noted, this human capital position on skill allows us to directly examine some recent criticisms made by policy-makers and business leaders about the employment skills that students acquire in their post-secondary programs.

c) The Measurement of Skill

I have outlined different ways skill has been theoretically conceptualized. A directly related concern for researchers is how skill is measured. The assumption that skill is measurable treats "skill" as a social fact, or a thing. In terms of the theoretical orientations discussed above, the attempt to measure skill in this more concrete manner falls within the realm of positivism. Typically, a quantitative approach has been utilized by such researchers to objectively measure skill. Alternatively, others have treated skill more as an ideological concept. For example, a social constructionist position would assert that conceptions of skill are fundamentally subjectively defined and ideologically driven. Conflict theorists would add to this by noting that those in positions of power define skill. Theoretically and empirically, the distinction between these two ways of examining skill is a nomothetic-idiographic distinction. Theoreticians utilizing the former (i.e., a positivist position) adopt an objective perspective on skill in terms of the ability to empirically assess it (i.e., skill as a measurable "thing"). An idiographic approach however would adopt a more skeptical view towards the ability to measure skill via objective measurement strategies and would support the perspective that conceptions of skill are fundamentally subjective.

Most sociological research has assumed a nomothetic (i.e., objective) methodological approach in analyzing skill. Among those who have attempted to measure skill, an important consideration is the type of research strategy utilized to measure it. Spenner (1983, 1990) notes that skill measurements can be classified into three types: nonmeasures, indirect, and direct measures. With respect to nonmeasures, crude associations are often made between occupational groups (e.g., managerial, professional, blue collar and white collar) and their implied skill levels. Indirect measures, on the other hand, generally use some empirical characteristic as a proxy for skill. Education is perhaps one of the most common indirect measures of skill, while training time and wage rates are also used as indirect measures. By their very nature, both nonmeasurement and indirect measurement strategies contain validity problems. For example, in each, what characterizes skill is left open to speculation, leaving the implied meaning of such measures sometimes unclear and problematic. Furthermore, for this study of the skills presumably developed by university education, it would be illogical to use education as an indirect measure of skill.

Direct measures of skill are the most effective measurement strategy and can be made by either outside sources or through self-reports. Such measures provide a more direct link to underlying conceptualizations of skill and therefore are less problematic when assessing issues of reliability and validity. Examples would include field studies which assess skill levels in the context of the workplace (Darrah, 1994). As well, the construction of various occupational taxonomies (discussed below) which are developed by way of a quantitative approach, also utilize direct measurement strategies. In the latter, direct measurements of job skills are made by expert observers or raters. However, such measurements made by outside observers have been criticized for containing potential biases. For example, occupational raters may bias skill measures through their own pre-conceived notions of the definition of skill.

An important question once again is whether skill, defined as an objective *thing*, is a characteristic of individuals or is a feature of jobs. Those who have utilized the *skill in jobs* perspective, have generally measured skill in one of two ways; through aggregate studies or case studies. Those who conduct aggregate studies typically attempt to assess skill levels at a broad level, across occupational groups and industrial sectors. The fundamental advantage of aggregate studies is that findings can be more readily generalized to larger populations. The *Canadian Classification and Dictionary of Occupations* (CCDO, Canada, 1971), the more recent *Canadian National Occupational Classification* (NOC; Canada, 1993), the *American Dictionary of Occupational Titles* (DOT; U.S. Department of Labor, 1977) plus other occupational taxonomies (e.g., Pineo and Porter, 1967) fall into this category. On the other hand, case studies tend to focus on more intensive investigations of particular workplaces or occupations. While case studies are not as readily generalizable, they do reveal more context-based and detailed findings on specific occupations and organizations.

Another concern for researchers who have attempted to measure skill in jobs has to do with the indicators that are used. Researchers have also asked whether skill is a uni-dimensional or a multidimensional concept. Sociologists are more apt to take a multidimensional view of skill, while researchers from other disciplines such as economics have been more inclined to view the term as more straightforward and have often utilized a uni-dimensional definition[7] (Spenner, 1990).

Sociological empirical research has often highlighted two basic dimensions of skill in jobs; substantive complexity and autonomy-control (Spenner 1983). Both dimensions describe the content of a job by virtue of the organization of work, as opposed to an ability that individuals bring to a job. Substantive complexity signifies the level, scope, and integration of mental, manipulative, and interpersonal aspects of jobs. On the other hand, autonomy-control refers to the discretion available in jobs to control the content, manner, and speed of job tasks. Other examples of a multi-dimensional view of skill are found in Field (1980) and Gallie (1994). For example, Gallie utilizes five measurement indicators of skill including: (1) perceived qualification levels for jobs; (2) amount of job training; (3) amount of time to learn to perform a job well; (4) presence of any supervisory responsibility; and (5) whether subjects themselves viewed their work as skilled. Gallie's measurement of skill incorporates a view of skill as something that is both a characteristic of individuals and as a feature of jobs. For example, while three of his indicators are related to Spenner's dimensions of substantive complexity and autonomy-control (i.e., time to learn job well, supervisory responsibility, perception of work as skilled), the other two items in Gallie's scheme (amount of education and training) suggest a view of skill as an individual characteristic.

In contrast to the *skill in jobs* perspective, those who have assumed the *skill in individuals* perspective have approached the topic from a range of disciplines including labour and educational economics, experimental psychology, human resource management, education, and to some degree sociology. A positivist and nomothetic theoretical approach has largely been utilized for analyzing skill in this way. Both direct and indirect measures are generally utilized for measuring *skill in individuals*.

Relevant to the discussion here, researchers adopting a human capital perspective within economics have generally utilized an indirect research strategy, and have used "level of education" as a proxy for inherent skill. The assumption is that a greater amount of education by its very nature leads to greater skill levels and greater productivity for employers. Critics point out that the human capital approach contains inherent validity problems, as it is unclear as to the degree to which education and skill are equated. The current study attempts to add to our understanding of what "human capital" constitutes by examining the skills that individuals may acquire in their university programs.

On the other hand, the field of psychology has often utilized direct measures as a way of examining skills through experimental methods which attempt to minimize the error in measuring skill (Singley and Anderson, 1989). Specifically, objective measurements may be made in a controlled environment for examining a range of specific and narrowly defined tasks. Others, following a situated

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[7] See for example Flynn's (1988) review of more than 200 case studies in economics.

learning approach within psychology (Rogoff and Lave, 1984), have criticized this experimental approach for its artificiality, noting that the measurement of laboratory tasks bear little resemblance to real life occurrences. A key point with the situated learning approach is that skills are fundamentally grounded in the contexts in which they are employed, and cannot be separated from these contexts. This perspective distances itself from the *skill in individuals* approach and is more aligned with the *skill in jobs* approach taken up by sociologists and other social scientists.

The types of skills which individuals bring with them into a workplace setting have also been studied by human resource management researchers. The implementation of the assessment of skill via human resource strategies takes place primarily at the company-level. For example, *skill inventories* may be conducted at the recruiting level and for performance appraisals once individuals are on the job (Schwind et al., 1995). Related to this, skill profiles, such as those created by the Conference Board of Canada and Human Resources Development Canada, similarly reflect the need to identify the types of skills which are required by industry.

A body of research on education-employment linkages (or school-work transitions) conducted by sociologists and other social scientists has also examined skills that individuals acquire or develop in post-secondary programs. I will discuss these measurement strategies in the next section in the context of existing Canadian literature on university graduates. Before addressing this subject, a few additional brief comments are necessary.

While the theoretical distinction between *skill in individuals* versus *skill in jobs* is important, once again this study emphasizes the former in light of the public policy concerns that have been raised with respect to graduate skill levels. As such, skill is examined in this study as human capital and as something which may be added through education and training. Nevertheless, despite this emphasis, some consideration of the *skills in jobs* perspective will still take place. For example, the types of jobs that graduates acquire will be examined, including some of the specific features of these jobs. The emphasis on the skills that individuals acquire by no means is meant to diminish how skills may be embedded in the structure of jobs themselves. Rather, this study focuses on the skills acquired by individuals through education as a response to policy-level critiques of higher education.

4. Canadian Research on University Graduates, and the Value of University Education

The link between university education and the labour market has been examined in a variety of contexts over the last several decades. This area of study is broadly known as *school-work transitions*[8]. This includes all research that examines the movement of individuals through the education system to the labour market, and vice versa. Research on university graduates comprises a substantial portion of the type of individuals who have been studied. Nevertheless, Canadian research on school-work transitions has also analyzed patterns among high school graduates (Looker, 1993; Krahn and Lowe, 1993b, Lowe et al., 1996b) and college and technical school graduates (Anisef et al., 1992).

Canadian research in this area has been ongoing for several decades. For example, since the 1960s, returns to education have been examined within the context of status attainment theory and social mobility research (Harvey and Charner, 1975; Ornstein, 1981; Harvey and Kalwa, 1983; Blakely and Harvey, 1988; Anisef et al., 1992). This research tradition emanated from American studies conducted in the 1960s, as exemplified by the work of Blau and Duncan (1967). This literature has examined the influences of parental background and socio-economic status for childrens' eventual educational and occupational attainment. Canadian research on social and occupational mobility has examined broader changes in social standing over time, via the occupational structure. Research on status attainment and social mobility is relevant to discussions of skill since there is a strong link between occupations and associated skills levels.

Research on university graduates has also been motivated by a number of other factors. For example, as previously noted, in the context of current political emphasis on institutional performance and accountability, an increasing number of outcomes assessment studies (or exit surveys) have been conducted at Canadian post-secondary institutions in recent years[9]. These studies have examined, among other things, student satisfaction with academic programs and self-reported skill development.

However, aside from issues of institutional accountability, some of the impetus for research on university graduates over the past couple of decades has come from concerns about high youth unemployment and under-utilization of graduates' education. As a result, some studies have tracked graduates' labour market experiences over time. For example, over the past twenty years the *National Graduates Survey* (NGS), a panel study conducted by Statistics Canada and Human Resources Development Canada, has examined the educational and employment outcomes of four separate cohorts of Canadian post-secondary graduates (Clark et al., 1986; Barr-Telford et al., 1996; Little and Lapierre, 1996; Paju, 1997). The survey has a number of objectives including the need: (1) to monitor the experiences of graduates of universities, colleges and technical/vocational schools in t[illegible]ransition from school to work; (2) to provide information required by analysts developing occupational supply and demand projection models, and conducting related studies of supply and demand imbalances in the labour market; (3) to assess graduates' level of satisfaction in a number of areas (i.e., work and education); (4) to determine the extent to which employment is related to field of study; and (5) to compare the employment experiences of different cohorts of graduates (Clark et al., 1986). A significant benefit of the NGS is that, for the types of indicators utilized, it is highly representative of Canadian graduates, as over 30,000 post-secondary graduates are typically sampled. However, other Canadian studies have also examined the experiences of university graduates over time. For example, Krahn and Lowe's (1993b) longitudinal panel study has tracked the labour market experiences of 1985 University of Alberta graduates. As well, they have more recently began to track the educational and workplace experiences of a separate 1996 cohort of university graduates.

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[8] This area is also referred to as *school-to-work transitions*. Krahn (1996) notes that the term *school-work transitions* is more instructive, since it reflects the bi-directional movement of individuals between the education system and the labour market.

Some of this research on university graduates has examined, among other things, the value of a university education, although it may not always be explicitly stated as such. For example, one way that the value of a university education has been indirectly addressed is through an examination of graduates' labour market outcomes. Specifically, several studies have looked at the relationship between education and subsequent employment. In each NGS, respondents have been asked whether their jobs were related to their post-secondary education. Results have generally revealed that a majority of graduates have acquired jobs over time which are either directly related or partly related. For example, two years after graduating, 85 percent of 1986 graduates working full-time indicated that

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[9] For example, Lowe et al., (1996) analyzed University of Alberta graduates' perceptions about their educational experiences.

their jobs were either directly related or partly related to their education (Barr-Telford et al., 1996). As well, two years after graduating, 86 percent of 1990 graduates working full-time indicated that their jobs were either directly related or partly related to their education. This percentage increased to 88 percent, three years later when these same graduates were again surveyed in 1995 (Little and Lapierre, 1996).

However, some additional analysis of 1990 NGS data has revealed that there are differences in job match-mismatch by "field of study." Generally speaking, examining differences by field of study is important because it helps to reveal which graduates experience success finding related work in the labour market. However, it is also important to examine this subject because of a common perception that students in science-related fields have more success in the labour market compared to students in the arts and social sciences. As Finnie notes, "the emphasis on comparing science versus non-science graduates is largely motivated by the general perception that we need to add more - and better - technically oriented graduates to the labour force" (1995; p.2). Looking at NGS results for 1986 graduates, Bowlby (1996) found that, two years after graduating, health profession graduates had the highest percentage of directly related jobs (71 percent), followed by engineering and applied science graduates (56 percent) and education graduates (66 percent). General arts and science (48 percent), social sciences (47 percent) and humanities (43 percent) had a lower percentage of graduates in directly related jobs. These results seem to suggest that compared to some "non-science" programs (e.g., general arts, social science, humanities), *professionally-oriented* science graduates may more quickly find work which is more directly related to their field of study.

Given concerns regarding the match between university education and subsequent employment, some more critical sociological research has also been conducted to examine underemployment among Canadian graduates (Livingstone, 1993; Anisef et al., 1996). For example, Redpath (1994) found that 35 percent of Alberta and Ontario university graduates were in jobs that did not require their level of education, two years after graduating in 1985. By field of study, she found that 70 percent of Arts graduates were in mis-matched jobs two years after graduating, followed by Science graduates (45 percent), Business graduates (33 percent), Engineering graduates (17 percent) and Education graduates (10 percent). Once again, as with findings from the NGS, it is interesting to note that a higher percentage of Arts graduates were in mis-matched jobs two years after graduating. However, a significant percentage of Science graduates in Redpath's study (45 percent) were also in mis-matched positions. As Redpath suggests, graduates from certain professional faculties (i.e., Education, Engineering and Accounting) seem to be in a more advantageous position when it comes to acquiring jobs which match their education, at least in the immediate years after graduation.

One conclusion that emerges from some of this literature is that, while policy-makers seem to suggest that there are skill shortages or deficiencies in human capital among graduates, research reveals that a significant number individuals from different types of programs, including Arts and Science, are underemployed after graduating. As Redpath (1994) suggests, there are discrepancies between the types of skills that employers and policy-makers indicate are needed, and the types of jobs which are available to graduates. For example, while policy-makers may suggest that science graduates are needed, research reveals that many of these graduates still have difficulties finding work which makes use of their education. Based on these findings on job match-mismatch, it is apparent that a university education may be of value for graduates from some faculties, more than for graduates from other faculties.

Another way that the value of a university education has been implicitly examined in the research literature is in terms of how graduates assess their educational choices several years later. Both the NGS and Krahn and Lowe's *Edmonton School-Work Transitions Study* have asked individuals to assess their educational choices in the years after they graduate. Findings have typically revealed that a majority of graduates have been satisfied with their educational choices. For example, NGS results reveal that two years after graduating 73 percent of 1982 graduates and 73 percent of 1990 graduates said they would have chosen the same educational programs (Clark et al., 1986; Little and Lapierre, 1996). Once again, there were differences by field of study. For example, among 1990 graduates, agriculture and biological science graduates were the most dissatisfied with their programs (35 percent), followed by general arts and science graduates (31 percent), as well as humanities (30 percent) and social science graduates (30 percent). On the other hand, fewer graduates of health professions (15 percent), education (16 percent) and engineering (16 percent) were dissatisfied. These results seem to reflect those presented above on the relationship between education and employment.

That is, just as more graduates in the health professions, engineering and education were likely to have directly related jobs, they also appear to have had fewer regrets about their educational choices. This is perhaps not surprising, given that we might expect individuals' labour market outcomes to have an impact on evaluations of academic programs.

Aside from the NGS, Krahn and Lowe's (1993b) study of predominantly Alberta graduates revealed that, four years after graduating, 68 percent of 1985 graduates were satisfied with their education, while the same percentage of these individuals were satisfied with their choices in 1992. Their 1992 (i.e., 7 years after individuals had graduated) results by field of study reveal that a higher percentage of Education graduates indicated that they would make the same educational choices (76 percent), followed by Engineering graduates (75 percent), Science graduates (70 percent), Arts graduates (60 percent) and Business graduates (56 percent). NGS findings from two separate cohorts of graduates (i.e., 1986 and 1990) reveal that Education and Engineering graduates were somewhat more likely to be satisfied with their educational choices, while Science and Arts graduates are somewhat less likely to be satisfied.

While these general results are informative, it would also be useful to supplement this information with more detailed assessments graduates make of their programs. Exit surveys conducted at individual academic institutions typically do ask students to make a number of more specific types of program assessments. However, exit surveys usually collect data only when individuals are graduating. It would also be helpful to ask graduates to assess their programs once they have been in the workforce for a number of years.

The value of a university education has also been implicitly addressed in other research, in terms of how graduates assess the skills they developed at university, as well as their ability to utilize these skills in the workplace. However, unlike the examination of the relationship between education and employment (i.e., or job-education match-mismatch), this topic area has received relatively little attention. This is surprising, given the number of references to employment skills in the research literature, as well as references to employment skills and skill shortages in public policy debates. The few existing studies which have examined this topic area will be outlined here, in order that I may later discuss how the current study will depart from them.

One Canadian study that has specifically focused on skill development at university is the *Making the Match* study (Evers et al., 1998; Rush and Evers, 1986, Rush et al., 1990). This study examined skill development among university students and graduates over a three-year period. Findings from their study reveal that, among a list of more than sixty pre-defined skill items, university graduates rated their interpersonal skills most positively, followed by problem-solving skills, dealing with everyday pressures, written communication skills, and time management skills (Rush et al., 1990). Individuals in this study were also asked to indicate the sources of this skill development (i.e., before university, university courses, extra-curricular university activities, on-the-job experience, formal job training). It is interesting to note that, of the five skill types that graduates were most positive about, three (i.e., problem-solving, written communication, and time management) were believed to have been primarily developed through on-the-job training and only secondarily through university courses. The two remaining skill types (i.e., interpersonal skills, and dealing with everyday pressure) were believed to have been developed through on-the-job training, and before university. Overall, the *Making the Match* study has been effective in providing overtime data on graduates' assessments of skill types, as well as outlining graduates' perceptions about the sources of this skill development.

Gilbert also examined skill acquisition of university students through the *Career and Education Achievement in the Student Environment Project (CEASE)* (Evers and Gilbert, 1991). Findings from this study revealed that, among a number of pre-defined skill items, students' assessments of independence were the highest, followed by thinking and reasoning skills, planning and organizational skills, interpersonal and social skills, and problem-solving skills. As with the *Making the Match* study, students in the *CEASE* project evaluated the sources of their skill development. These students indicated that formal university education had been the most influential source for their problem-solving, thinking and reasoning skills, planning and organizational skills, time management, and quantitative skills. On the other hand, students considered formal university education to be the least important source for decision-making, communication skills, interpersonal and social skills, supervisory skills, and independence.

A brief comparison of the *Making the Match* and *CEASE* studies reveals that graduates and students were generally positive about their skill development, although they provided lower evaluations of quantitative, supervisory, communication, risk-taking, leadership and creativity. As Evers and Gilbert (1991) outline, formal university education appeared to be a more important source of skill development for thinking/ reasoning, and problem-solving skills, planning/ organizational and time management skills, the ability to conceptualize, learning skills, quantitative skills and technical skills. However, university education appeared to be seen as a less influential source for the development of independence, interpersonal and social skills, supervisory skills, risk-taking, managing conflict, leadership and creativity. Thus, it is interesting to note that students and graduates in these studies tended to emphasize analytical and organizational types of skills as having been developed at university, while downplaying other traditional generic skills such as social/ interpersonal and communication skills.

However, one of the drawbacks of both the *Making the Match* and *CEASE* studies is that they do not provide information on the extent to which graduates believed that the skill types that they evaluated are actually utilized in the workplace. In this respect, Krahn and Lowe's *Edmonton School-Work Transitions Study* is somewhat more informative as it provides some information on the relationship between university education and employment in terms of perceived skill development. For example, four years after graduating, 78 percent of respondents said that their job was related to their education in terms of "specific skills" learned, while 87 percent said that their job was related in terms of "general skills" learned (Krahn and Lowe, 1990). Nevertheless, while this information is useful in that is conveys that graduates may be satisfied with their skill development at university, it does not outline the skills to which graduates are specifically referring. However, another feature of Krahn and Lowe's study is that graduates also evaluated their perceived skill development for several specific skill items. Specifically, four years after graduating, over 80 percent of 1985 graduates indicated that their education had improved both their communication and reasoning skills. Along with the fact that over 80 percent of these graduates also indicated that their education had improved their career prospects, this provides some evidence that these graduates valued certain aspects of their university education.

Additionally, the NGS has examined graduates' perceptions of their skill development. For example, two years after graduating, approximately 70 percent of 1982 graduates indicated that their education had provided them with "general skills" (i.e., communication, social and reasoning skills) either "to some extent" or "to a great extent." As well, approximately 70 percent of 1982 graduates indicated that their programs had "improved their career prospects." At a general level, this provides some evidence that a majority of graduates valued certain aspects of their education. Nevertheless, this information is ambiguous in terms of how graduates assess specific types of skills developed in their programs. For example, asking graduates to assess the development of their "general skills" presents a potential measurement problem, as it is unclear how respondents may interpret the meaning of this question. In this respect, one improvement to the NGS in the 1990s is that additional questions have been incorporated which address specific skill types. Looking at the 1992 results for the "class of 1990," graduates provided higher assessments of "critical thinking" and "decision-making skills," and somewhat lower assessments of "writing" and "speaking" skills[10]. These results are somewhat reflective of those found in the *Making the Match* study and the *CEASE* project. That is, graduates appear to be more positive with respect to the development of analytical skills, and less positive with respect to the development of their communication skills. Further analysis of these findings by field of study would help to delineate how graduates from different programs have fared, given the perception by some that individuals from different programs may be acquiring more desirable employment skills than others. For example, policy-makers often suggest that more graduates from "science" programs or "high tech" programs are needed in the workplace today.

Overall, a review of the school-work transitions literature reveals that the value of a university education has been implicitly examined in a number of Canadian studies on graduate outcomes. This includes research which has examined the match between graduates' education and employment, graduates' evaluations of their educational experiences, and to a lesser degree, graduates' evaluations of their skill development at university. However, as suggested throughout this section, additional research is required on all of these topic areas. For example, more research is needed on how individuals evaluate their programs several years after graduating. While some research has been conducted in this area (i.e., through individual exit surveys, the NGS, Krahn and Lowe's *Edmonton*

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[10] In 1992, the class of 1990 graduates were asked to rate the extent to which their programs had developed various skills on a scale of 0 (not at all) to 3 (to a great extent). Mean values for these skill types include: critical thinking skills (2.4), decision-making skills (2.23), writing skills (1.96), and speaking skills (1.95) (Little and Lapierre, 1996).

School-Work Transitions Study), it would be useful to ask graduates additional questions about their programs to determine the extent to which they value their education several years later. As well, and of particular importance, additional research is needed on how individuals assess specific employment skills they may have developed in their programs, and which skills have been useful for them in the workplace. Overall, additional research is required in these areas to address concerns raised by policy-makers and business leaders regarding the value of a university education. As well, if we are to sufficiently understand how a university education may be valued in society today, and especially as this relates to occupational outcomes, it would seem that graduates themselves would provide an important source of information.

From a methodological point of view, of those studies which have examined university graduate outcomes in Canada, almost all have utilized direct measurement strategies via quantitative survey instruments. In many cases, measures of skill development and satisfaction with programs are obtained through self-reports on surveys and are subsequently analyzed at an aggregate level. The main benefit of these studies is that findings can be generalized to a larger body of graduates. This is particularly the case with the NGS, but also applies to other research which has collected aggregate data on university students and graduates (e.g., the *Edmonton School-Work Transitions Study*, the *Making the Match* study).

A limitation with many of these studies is that they provide only a limited amount of information on graduates' assessments of their university education and the employment skills they developed in their programs. For example, graduates are typically asked to assess a number of pre-determined and also sometimes a limited number of skill types through quantitative scaling techniques. This strategy limits the types of responses that graduates are able to provide. In this respect, it would be useful to examine which employment skills graduates *volunteer* as having been developed at university, and which have been useful for them in the workplace. This also applies to additional types of questions regarding how graduates assess their educational experiences more generally. For example, it would be useful to ask graduates to identify specific features of programs they believed were "strengths and weaknesses" and how they evaluate their programs in light of their subsequent experiences in the labour market.

At the same time, examining graduates' labour market outcomes is an important way of assessing the value of university education. Some studies have conducted follow-up research on university graduates and employment outcomes. For example, the NGS and the *Edmonton School-Work Transitions Study* are both longitudinal studies which have tracked the labour market experiences of graduates over time. While more research is required on how graduates value their university education in general, and in terms of specific skill development, it is equally important to examine graduates' labour market outcomes as a way of contextualizing these evaluations.

Methodologically, interviews would provide a useful way to examine these issues. Furthermore, conducting interviews with graduates once they had been working for several years would allow us to examine issues surrounding skill development and evaluations of university education in greater depth than with a traditional survey questionnaire approach. For example, an interview approach would provide the opportunity to potentially identify any *tacit skills* that graduates may acquire in their programs, and which may be important for them in the workplace. More generally, however, an interview approach would allow graduates to elaborate on their responses in a more open-ended manner than they typically do, or are encouraged to, in self-administered survey questionnaires. This would also be supplemented through question probing by an interviewer.

5. Objectives and Research Questions

In light of the preceding discussion, the main objective of this study is to examine the value of a university education today in three respects: (1) by examining employment outcomes of university graduates; (2) by examining graduates' evaluations of their university education; and (3) by examining graduates' perceptions about the skills they developed at university. Chapters 4 through 6 present findings from this study which address these three research objectives.

The current study draws upon two sources of data to examine the main research objectives outlined here. This includes semi-structured interviews conducted with thirty-seven individuals who graduated from a range of programs at the University of Alberta in 1989 and who were interviewed in the winter and spring of 1997. In addition, this study also examines questionnaire data collected from these same individuals between 1985-1992 as part of the *Edmonton School-Work Transitions Study* (Krahn and Lowe, 1993b). The survey questionnaire data, along with the interview data, provide an opportunity to examine over-time changes in assessments of university education and perceptions of skill development. The specific details of the research design, including a description of the research participants, are outlined in Chapter 3.

Another objective of this study is to consider the relative value of utilizing a semi-structured interview approach versus a more traditional survey questionnaire approach for examining graduates' assessments of their employment skills and their university education. This research objective will be addressed in Chapter 7 (Discussion and Conclusions) once all of the findings have been presented.

A third research objective of the study is to examine the concept of "human capital" in more detail than have other social scientists in the past. Specifically, this study will attempt to identify some of the components of human capital (i.e., employment skills) that individuals may acquire in their university programs.

In the context of these objectives and the foregoing review of the literature, a number of research questions are considered in this study. These general research questions framed the more specific questions asked in the semi-structured interviews and helped in the selection of particular questions to be examined from the *Edmonton School-Work Transitions Study* questionnaires. The general research questions are outlined below in the order in which they are examined in Chapters 4 through 6.

I. *Employment-Related Questions*

1) How are 1989 university graduates faring in the labour market? What types of jobs have interview participants acquired since graduating?

2) How do graduates assess the degree of match/mismatch between their university education and their jobs?

3) Are graduates satisfied with the jobs they have acquired?

4) Have graduates' assessments regarding the degree of education-job match/mismatch, or their job satisfaction, changed over time?

5) Do graduates' employment experiences vary by program of study?

II. *University Assessment Questions*

6) How do 1989 graduates evaluate their university education several years after having graduated? Do they value their university education, especially in light of their employment experiences? What are some specific features of their programs that they recognize as strengths and weaknesses?

7) Have graduates' assessments of their university education changed over time?

8) Do graduates' assessments of their university education vary by program of study?

III. *Skill-Related Questions*

9) Which employment skills do 1989 university graduates identify as having been learned in their undergraduate programs? Related to this, what employment skills do they say they should have learned at university?

10) Have graduates' assessments of some of the employment skills they acquired changed over time?

11) Which employment skills have graduates been able to utilize in the workplace?

12) What are graduates' assessments of the role of universities in teaching employment skills?

13) Is program of study a determinant of the types of employment skills that graduates indicate they learned, or should have learned, at university?

14) How do graduates define terms like "skill" and "skilled job"?

Chapter 3
Methodology

This study addresses concerns about the value of university education by examining graduates' employment outcomes, their assessments of their university education and the skills they developed in their programs. Two types of empirical data are utilized in this study. The primary research data come from semi-structured interviews which were conducted with university graduates in 1997. Additionally, existing survey data collected from this same group of individuals is examined. Together, the analyses of these data address the research objectives and questions which have been discussed in Chapters 1 and 2. Before outlining the details of the research design, it is necessary to briefly outline the *Edmonton School-Work Transitions Study*, since it is this larger study which served as an important data and respondent source for the current study.

1. The Edmonton School-Work Transitions Study

The *Edmonton School-Work Transitions Study* (ESWS) was begun at the University of Alberta in 1985 by Dr. Harvey Krahn and Dr. Graham Lowe. This longitudinal panel study has examined issues surrounding school and work for primarily Edmonton and Alberta youth for more than a decade. This study has a life-course perspective and examines many of the structural, institutional and subjective components of life transitions, particularly as this relates to education and employment. In total, the study has examined four cohorts of youth including two groups of grade 12 students and two groups of university graduates. Specifically, in 1985, approximately 3600 grade 12 students from Edmonton, Sudbury and Toronto were surveyed, as well as over 600 university graduates from the same three cities. Since 1985, most of these individuals have been contacted four additional times as part of the on-going panel study, although the Toronto and Sudbury components of the study were discontinued in 1989. Specifically, additional data collection phases of the ESWS were carried out in 1986, 1987, 1989, and in 1992. In 1992, 41 percent of the original high school sample completed a survey, as well as 61 percent of the original university sample. In 1996, two new cohorts of individuals were surveyed, including a grade 12 cohort which was expanded to an Alberta-wide sample, which totaled approximately 2700 students. As well, in 1996, a new cohort of more than 600 University of Alberta graduating students were also surveyed.

Respondents from the original 1985 Edmonton grade 12 cohort comprise the core sample in the current study[1]. I chose to follow-up the 1985 grade 12 cohort, rather than the 1985 university cohort, because of the methodological issue of recall. The 1985 university sample graduated twelve years earlier before I began my study. However, individuals from the 1985 Edmonton grade 12 sample graduated from university eight years before I began my research. Hence, I believed that individuals from the grade 12 cohort would have an easier time reflecting back on their educational experiences. As well, in contrast to 1985 university sample members, the grade 12 cohort completed questionnaires throughout the course of their university studies. This provided the opportunity to examine changes in responses while respondents were still students. In the following section, I will discuss the overall research design of this study and then outline the details of the semi-structured interviews that were conducted and also how the ESWS survey data were utilized.

2. Research Design

In the current study, two sources of data are utilized in the overall research design. These data include semi-structured interviews, which introduced a qualitative component in terms of how they were conducted. These semi-structured interviews were conducted with university graduates in 1997. In addition to the interview data, existing quantitative survey data was also analyzed. These survey data were collected as part of the ESWS between 1985 and 1992.

The research design of this study draws upon methodological features of the ESWS. For example, 1997 interview participants were among those who had also completed surveys for the 1985-1992 ESWS. As well, some of the questions asked of 1997 sample members had also been asked of 1985-1992 ESWS respondents. For these reasons, the 1997 semi-structured interview component is a longitudinal follow-up of the 1985-1992 ESWS. However, the 1997 interviews not only follow-up with ESWS sample members, but also extend upon many of the issues and questions from that study.

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[1] Permission was granted by the principal researchers to contact respondents who took part in the 1985 phase of the ESWS.

In particular, most of the questions that 1997 interview participants were asked are those which address the key research objectives and questions which were outlined in the previous two chapters. Thus, incorporated into the 1997 interviews are questions which are more focused on examining the value of a university education. These include questions regarding skill development at university, skill use on the job, and assessments of university education. As well, methodologically, the 1997 semi-structured interviews depart from the ESWS questionnaires in terms of the manner in which questions are asked. For example, 1997 interview participants were asked to respond to questions in a more open-ended manner than were ESWS respondents. As well, the fact that the 1997 interviews were conducted in person is different from the ESWS survey questionnaires, which were generally self-administered.

One of the main reasons for utilizing both the 1997 semi-structured interview data and the 1985-1992 ESWS survey data is that it provides the opportunity to examine graduates' perceptions on university education, skill development, and employment in an over-time context. For example, there are some questionnaire items from the 1992 phase of the ESWS on job match/mismatch that parallel questions which I asked in the 1997 interviews. In this respect, it is possible to examine sample members' responses to certain questions longitudinally.

Another benefit of using both data sources is that there are certain ESWS questionnaire items which provide useful background information for the types of questions asked in the 1997 interviews. For example, in the 1985-1992 ESWS questionnaires, sample members were asked about the reasons why they chose their particular program of studies at university. This type of information is useful for interpreting some of the 1997 interview data.

Another advantage of using both data sources is that it provides the opportunity to triangulate these data. That is, findings for similar types of questions which have been examined via different methodological procedures can be corroborated. This provides at least a partial validity check for some of the questions examined. While some changes in the findings from these data would result from over-time changes in attitudes and perceptions (i.e., between 1985-1992 and 1997), it might be expected that findings would not be so dramatically different such that comparisons could not be made.

In the following sub-sections, I will outline the 1997 interviews in greater detail than what has been described thus far and also discuss how the ESWS survey data were utilized in this study.

a) 1997 Semi-Structured Interview Data

i Sampling Strategy

A non-probability sample was chosen from the 404 Edmonton high school respondents who took part in the 1985 to 1992 ESWS. Individuals were chosen on the basis of a number of criteria. For example, an attempt was made to choose individuals who had graduated from the Faculties of Arts, Science, and Business. These faculties were chosen since they represent programs which are more general in their academic orientation and less specific in terms of potential employment outcomes as compared to some other programs at the University (e.g., Dentistry, Law, Nursing). The initial goal was to contact and interview ten individuals from each of these faculties, including five men and five woman, for a total of thirty interview participants. An attempt was also made to choose individuals who had only completed their undergraduate degree, with no further post-secondary education. As well, an initial goal of the study was to choose individuals who had a range of socio-economic backgrounds, based on the information known about participants from the first few phases of the ESWS. Finally, an attempt was made to choose individuals who lived in greater Edmonton or central Alberta, therefore controlling on subsequent geographical location.

Once attempts were made to contact individuals by telephone in February and early March of 1997, it became apparent that the original sampling strategy needed modification. For example, while many individuals still lived in the greater Edmonton region, a number of graduates had moved from this region including some who had left the province. Thus, it became apparent that it would be difficult to contact enough individuals from each of the three faculties in the greater Edmonton region. As a result, the potential contact area was enlarged and some individuals were contacted who lived outside of central Alberta. In the end, seven additional interviews were conducted with individuals from British Columbia, Saskatchewan and Calgary.

Another problem with the original sampling strategy was that choosing individuals from a range of socio-economic backgrounds became too difficult to control. There simply were not enough potential participants from the contact list available to satisfy this sampling criterion. Therefore, the potential effect of socio-economic status on the employment outcomes and attitudes and perceptions of participants will not be examined in this study.

In addition, establishing contact with individuals who only had completed their undergraduate degrees and no additional post-secondary education also became too difficult to control. Therefore, a number of individuals who were contacted and agreed to be interviewed had completed some additional post-secondary education in addition to their undergraduate degrees from the University of Alberta. In total, eleven participants had completed additional post-secondary programs. Of these eleven people, three individuals had completed management or business diploma programs, three individuals had finished after-degree programs in Education[2], two had received Chartered Accountant certificates, one had completed an MBA, another had completed a legal assistant program, while another individual had completed a Pharmacy degree. Given the difficulty in finding enough available participants from the three faculties, it was decided that these individuals should be interviewed even though they had completed additional post-secondary education. In retrospect, I believe that these people were still able to reflect on their undergraduate degrees as effectively as the other participants who had not completed additional programs. Nevertheless, it is difficult to determine the extent to which this might have influenced the responses they provided. In hindsight, a benefit of interviewing these individuals (i.e., those who completed additional programs) is that it presented the opportunity to compare their responses about their undergraduate programs with the responses they provided about their additional post-secondary education.

Having nearly exhausted the list of potential participants, the decision was made to contact some other individuals outside of the Faculties of Arts, Science and Business. Since three individuals already interviewed had also completed Education after-degree programs, I decided to interview some additional individuals who had graduated with an Education degree. In total, four more individuals from Education were interviewed. These individuals were also among those who took part in the original 1985 ESWS. In the end, this provided a small sub-set of Education graduates. While the initial sampling strategy aimed to interview individuals who had completed more general types of university programs, the decision to include Education graduates was useful. For example, a large majority of Faculty of Education graduates choose their programs with the specific intention to teach afterwards. As a result, this provided the opportunity to compare the responses of individuals who had completed a more occupationally-specific type of program with responses of graduates from the other three faculties.

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[2] Two of these individuals completed after-degree Education programs at the University of Alberta,

ii. Participants

A total of thirty-seven individuals were interviewed in the current study. These interview participants had graduated from a range of programs at the University of Alberta between 1988 and 1994, although the majority had graduated from the University in 1989. Approval to interview these individuals was granted at the University of Alberta by the Sociology Department Ethics Review Committee. All but two of the thirty-seven individuals were respondents in phase 1 of the ESWS, having completed questionnaires as grade 12 students in 1985[3]. These two individuals were interviewed in the pre-test and were not members of the 1985 Edmonton high school cohort. However, after having completed a number of interviews and re-examining the pre-test interviews it was decided that two of the three pre-tests (i.e., #2 and #3) were satisfactory to use in the study. Both individuals generally fit the criteria for inclusion in the study (i.e., as discussed in the previous section) and I did not know either of them before the interviews began. The only drawback with using these two cases is that it was not possible to examine over-time changes in their responses, as they had not completed any of the ESWS questionnaires.

Overall, nineteen women and eighteen men were interviewed. Thirteen individuals had graduated with a Science degree, ten with an Arts degree, eight with a Business degree and six individuals with an Education degree[4]. A listing of the interview participants by pseudonym, academic program, academic major, and gender is outlined in Appendix 2.

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and one at the University of Calgary.

[3] During the initial contact telephone call, one participant questioned how I had obtained his name and telephone number. He raised this point because of the assurances made on the ESWS questionnaires that contact information would be kept confidential. I informed him that I had worked on a recent phase of the ESWS, that I had only gained access to his name through permission from the principal investigators because of the nature of the study (i.e., the need to interview people), and that he could be assured that contact information was still being kept confidential. In the end, this individual agreed to be interviewed.

[4] One individual in the Science category had completed an Occupational Therapy program, although she had originally been a Faculty of Science student. Another student in the Science category completed a Civil Engineering program. As well, two individuals in the Education category had completed degrees in Physical Education. I included these individuals in these two Faculty categories since their degrees most closely approximated the substantive foci of these faculties.

While thirty-seven is a reasonably small sample size, the type of more detailed feedback provided by individuals in the interviews more than compensated for this small number of cases. For example, the types of questions which were asked about the skills that individuals acquired in their programs, as well as questions about their perceptions of their programs, go beyond some of the typical questions that university graduates have been asked in other follow-up studies in Canada. As I outlined in Chapter 2, other studies which have examined graduates' perceptions of skill development and their academic programs generally adopt a quantitative survey questionnaire strategy, which often provides only limited information on some of the issues. This study constitutes a unique approach in this respect.

There are a number of reasons why it was beneficial to study this specific group of individuals. First, since sample members have been a part of the ESWS for more than a decade, longitudinal data exists on their perceptions of work and education, including responses to some questions on skill development. Details about the specific use of this quantitative longitudinal data are outlined later.

A second important reason for examining these individuals is that the strategy provided some control over which individuals were selected for the interviews. As outlined in the previous section on sampling strategy, I tried to select individuals who met a number of theoretically important criteria.

Additionally, having access to sample members' responses from earlier ESWS questionnaires was useful in preparing for the semi-structured interviews. For example, prior to conducting the interviews a profile of each participant was prepared, based on their education and work history and on how they had responded to certain items from earlier ESWS questionnaires. Responses to some of these prior questionnaire items were noted on the interview schedule and these issues were sometimes raised with individuals during the interviews. This sometimes helped to verify and/or to look at how participants' responses changed over time. Methodologically, these pre-interview profiles provided useful background information about participants, which helped in establishing rapport in the initial moments of the interviews. Simply knowing the academic program from which participants graduated, or the high school they had attended, helped to initiate conversation at the beginning of the interviews. Overall, familiarizing myself with some of this information helped to let participants know that I was interested in what they had to say and valued the responses that they had been providing for the ESWS over the prior twelve years.

Another important reason for looking at this group of individuals is the amount of workplace experience that these individuals had acquired up to the time the interviews were conducted. For example, since graduating from university, most participants in the study had been in the workforce for between 5-11 years, with 7-8 years being an average length of time. As a result, participants had acquired a significant amount of workplace experience, enabling them to have potentially greater insight about the employment skills they had developed at university and which skills had been (or had not been) utilized in the workplace. Many studies that have examined post-secondary graduates and returns to their education have examined only graduates' perceptions up to the time of first jobs acquired.

An additional reason why these sample members are important to study is related to the specific time period that they entered the labour market. All participants had graduated from Edmonton high schools in 1985 and had then completed a university degree[5]. Most of these individuals graduated from university in the years just prior to the economic recession of the early 1990s and at a time when much economic re-structuring was occurring in the labour market. As a result, many would have experienced variable labour market conditions since graduating, from a more favourable economic climate in the late 1980s, to a more competitive climate in the early 1990s. In this respect, it is useful to study this group because they represent a cohort that has experienced challenges in the labour market, challenges which at least somewhat typify what Canadian youth have been experiencing over the last decade.

Additionally, the inclusion of these individuals in this study specifically addresses issues surrounding institutional accountability with respect to the employment outcomes of graduates. In 1991, the Commission on Canadian University Education (Smith, 1991) noted that efforts should be made to track the performance of students once they graduate. As noted in the last chapter, exit surveys developed by many Canadian universities often examine students' perceptions of their education only at the time of graduation. Hence, the results of this study can provide more in-depth follow-up information on graduates' assessments of their educational experiences at university.

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[5] The exception here is the two individuals who completed the pre-test, and who did not graduate from high school in 1985.

Finally, since I desired to interview individuals (i.e., as opposed to sending out questionnaires), it was convenient to study these individuals since the ESWS has excellent contact information on a large majority of their survey respondents. It was also convenient to examine this group since a number of individuals still lived in the greater Edmonton region. As well, while initially contacting individuals, the fact that they had been a part of the ESWS for over a decade helped to legitimate the current study, and most likely encouraged more people to participate.

iii. Details of the Semi-Structured Interviews

The thirty-seven interviews for this study were conducted between February 25th and May 22nd, 1997. The interviews ranged in length from fifty-four minutes to two hours and fifteen minutes, with an average interview length of one hour and thirteen minutes. All interviews were tape-recorded, and detailed transcriptions were subsequently completed[6]. Participants were informed during the initial contact phone call that the interviews would be tape-recorded. At the very beginning of each interview participants were assured that any information that they provided would be kept strictly confidential, that their identity would remain anonymous in any publications, that they had the right not to answer any questions that they did not wish to, and also that I had access to the questionnaires that they had completed in prior phases of the ESWS.

Thirty of the thirty-seven interviews were completed face-to-face and took place at one of four possible locations: (1) the University of Alberta; (2) the participant's workplace; (3) the participant's residence; (4) a neutral site (e.g., coffee shop). Overall, eleven interviews took place in seminar rooms at the University, nine took place at participants' workplaces, seven took place at participants' residences, and two took place at a coffee shop.

Of the thirty face-to-face interviews, twenty-eight were conducted in the Edmonton region (including Sherwood Park and St. Albert) and two were conducted in Calgary. Given the considerable distance to where some of the participants lived, seven additional interviews were conducted by telephone (with 3 individuals from British Columbia, 1 from Saskatchewan, 1 from Calgary, and 1 from Edmonton). These telephone interviews were also tape-recorded and subsequently transcribed. Initially, I was hesitant about conducting interviews via telephone because of potential problems in comparing data from interviews conducted in different ways. Whenever possible, I chose to meet with interview participants in person. Nevertheless, I believe that the seven telephone interviews proceeded very well, despite the changes in the dynamics of the interview (i.e., no eye contact between interviewer and participant, no physical presence). The only slight problem encountered with some telephone interviews was that questions needed to be repeated a couple of times in order for participants to hear them properly. Other than this, participants were very cooperative on the telephone and, in my opinion, just as willing to discuss issues as were participants interviewed in a face-to-face setting. The length of the telephone interviews were approximately the same as for the face-to-face interviews.

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[6] The author completed 33 transcripts. Another 4 were initially completed by a hired transcriber, although these were later edited by the author.

The interviews were semi-structured, providing an opportunity to ask participants standardized questions as well as additional open-ended responses. The "structured" questions that participants were asked addressed the following topic areas: (1) the skills that participants had developed in their university programs; (2) participants' general assessments of their university education; and (3) participants' workplace experiences since graduating. In terms of the larger research objectives of the study, these three topic areas address the different ways that the value of a university education is assessed. The interview schedule that was utilized in the study is included in Appendix 1.

Asking participants the same questions allows the opportunity to make comparisons in responses across the whole sample and also by faculty. Nevertheless, while there was a definite structure to the interviews, questions were presented to participants in such a way as to encourage completely open-ended responses. I also asked participants additional spontaneous questions as a way of probing specific issues that they raised. This enabled me to explore issues which might have been important to participants, but which were not addressed by the more structured questions. In the end, a number of important themes emerged from the interviews partially as a result of these open-ended responses.

In summary, one of the main reasons for conducting this study is that few follow-up studies have been carried out on how graduates perceive their own skill development at university and how they assess their university education more generally in light of their workplace experiences. In this respect, an interview strategy is useful to address some of these questions about the value of a university education today. More specifically, interviews provide the opportunity to gain potentially greater insight about these issues since the interviewer is able to probe specific ideas that may emerge in the course of an interview. As well, participants are able to elaborate on their answers and thus provide potentially richer responses to questions about their skill development at university and how they value their university education now that they have been in the workforce for several years.

b) 1985-1992 Edmonton School-Work Transitions Study Data

This study also utilizes existing quantitative ESWS panel data to examine graduates' perceptions of their university education, skill development at university, and employment outcomes. More specifically, selected questionnaire items from the 1985, 1986, 1987, 1989, and 1992 ESWS data sets are examined and are presented at various points throughout Chapters 4 to 6. The ESWS questionnaire items which are analyzed are those which are specifically pertinent to the research questions being considered in this study. This quantitative data is examined at an aggregate level and reflects the responses of all 123 1985 ESWS high school respondents who subsequently graduated from university (i.e., those who had graduated by 1992, the most recent survey period). These 123 sample members include the 35 participants who were interviewed in the current study[7].

Since I will be analyzing quantitative data based on the full 123 member sample, it might be asked how representative the smaller 35 member sub-sample is of the larger sample. A comparison of responses from the 1985-1992 ESWS questionnaires for the 35 members of the interview sample with the larger group of 123 reveals that these two samples are generally quite similar. For some of the questions analyzed in the current study, percentage differences across response categories were minimal, that is, in the order of 0 to 3 percent. For some other questions, percentage differences varied from 5 to 10 percent. On average, for all eight ESWS questions analyzed in this study, the percentage differences varied by an average of approximately four percent. Thus, the 35 individuals who were interviewed are generally quite reflective of the larger sample. To make the point, here are a couple of examples from two questions which are analyzed in Chapters 4 and 5.

a) 1992 ESWS responses to the question, *"how satisfied are you with your job?"*[8]

	35 member sample		**123 member sample**	
	N	%	*N*	%
Dissatisfied	4	12	14	13
Neutral	9	27	28	26
Satisfied	21	62	66	61

b) 1989 ESWS responses to the question, *"my education has improved my communication skills."*[9]

	35 member sample		**123 member sample**	
	N	%	*N*	%
Dissatisfied	0	0	1	<1
Neutral	4	11	16	13
Satisfied	31	89	105	86

As these two examples reveal, the findings for the 35 member interview sample appear to be quite reflective of the larger 123 member sample. As a result, it is useful to analyze the data for the larger sample of 123 since these data reflect the findings for the entire cohort of 1985 ESWS high school students who completed a university degree and thus provide more confidence in the generalizability of the findings. More will be said about this in the next section.

A drawback of the quantitative data examined in this study is that, for *some* of the key research questions, no questionnaire items specifically addressed these key issues. For example, not many questions from the ESWS focus on how individuals assess their university education in light of their subsequent workplace experiences. As well, there are only a few ESWS questionnaire items that

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[7] Once again, two individuals who were interviewed in the pre-test were not respondents in the ESWS.
[8] Respondents were asked to evaluate the question on a scale of "very dissatisfied" (1) to "very satisfied" (5). Scores of 1 and 2, and 4 and 5 are combined.

address graduates' perceptions of the development of particular skills[10]. On the other hand, for other key research questions, there *are* questionnaire items from various phases of the ESWS which are similar to those asked in the semi-structured interviews.

3. Generalizability of the Interview Data

With thirty-seven cases in the interview sample, some concerns might be raised about the ability to generalize the findings from these data to a larger population of university graduates. Some of these concerns could emerge from the perception that compared to the typically larger number of cases present in "quantitative" survey data sets, it may be difficult or not even possible to generalize the findings from a relatively small number of cases collected via a qualitative interview research strategy. Maxwell (1996) for example, suggests that most qualitative research is guided by a need for internal generalizability as opposed to external generalizability. That is, qualitative researchers tend to focus on the ability to generalize conclusions to the group or case being studied, rather than to a larger group external to the one at hand. While the current study seeks to attain internally generalizable conclusions, I believe there are instances where it would be possible to generalize the findings to a larger population of graduates. At other times, I agree that it would be more difficult or not even possible to generalize findings.

First, in cases where there is a unanimous type of response given by sample members to a particular question, I believe that we may be more confident that such findings are generalizable to a wider group of graduates. For example, in cases where a large majority of sample members (e.g., 80-100 percent) provide the same type of response, our confidence that such findings are more generalizable would increase.

Second, where findings are consistent with, or at least similar to those from other studies which have examined the perceptions of university graduates about skill development and their university education, this would increase our confidence that the findings are externally generalizable.

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[9] Respondents were asked to evaluate the question on a scale of "strongly agree" (1) to "strongly agree" (5).

[10] It should be noted that it would not be expected that extensive questions on these topics would exist in the ESWS, since this was not a primary research objective for that study.

Beyond these conditions however, there is another reason why we might be more confident in generalizing the findings from the qualitative interviews in this study to a larger group of graduates. For example, as outlined in the previous section (which discussed the 1985-1992 ESWS panel data used in this study), in many instances there is comparability between the findings for the 35 member sub-sample (i.e., the interview sample members) and the 123 member sample from which the interview sample were drawn. For example, for the eight questions from the ESWS surveys that are examined in this study, the variation between the findings for the 123 member sample and the 35 member sub-sample differed on average by only four percentage points per question. This suggests to us that responses that the 35 member sub-sample provide may be suitably representative of the larger 123 member sample. This in itself suggests that it may be possible to generalize the findings from the interview data to a larger group of graduates, particularly since the 123 ESWS respondents come from a representative group of 1985 high school students who later went on to attend a large Canadian university.

However, with this said, I do believe that it may only be possible to generalize the findings from the interview data to a certain extent. For example, in instances where the conditions described above are absent (e.g., lack of unanimity among responses), it would be more difficult to assert that findings are generalizable. As well, when examining responses by faculty it would be more difficult to generalize findings since the number of cases in this study from each of the four faculties is relatively small. For example, in the case of the Faculty of Education, only six individuals were interviewed.

4. Analysis Strategy

As noted, this study draws upon two sources of data: semi-structured interview data and quantitative survey data. In the analyses presented in Chapters 4-6, the emphasis is largely placed on the thirty-seven interviews that were conducted in 1997, since these data most closely address the research questions outlined in Chapter 2. Nevertheless, the survey data are also an important component of the study, particularly because of its longitudinal nature.

As noted earlier, the primary objective in this study is to examine the value of a university education by way of three approaches: (1) through an examination of graduates' employment outcomes; (2) by examining graduates' assessments of their university education, especially in light of subsequent workplace experiences; and (3) by examining how graduates identify and assess the employment skills they developed at university, and how they assess the applicability of these skills for their jobs.

Findings that address the first approach are outlined in Chapter 4. The analysis of graduates' employment outcomes includes the types of jobs they acquired, their assessments of their ability to find employment after graduating, their satisfaction with their jobs, and their perceptions of job match/mismatch.

The second approach considers how graduates assess their university education several years after graduating (Chapter 5). This analysis includes interview data as well as some responses from the 1989 and 1992 phases of the ESWS.

The third approach (Chapter 6) considers the types of skills that are developed or acquired in university programs and the relevance of these skills for the workplace. The 1997 interviews provide the primary source of data, although some information on graduates' assessments of *communication* and *reasoning* skills from the 1989 and 1992 phases of the ESWS is also presented. The usefulness of the interview strategy is particularly highlighted in this chapter, since graduates are given the opportunity to volunteer information about which employment skills they developed in their programs, information absent in previous research on university graduates.

Throughout Chapters 4-6, the typical analysis strategy entails summarizing and discussing findings at a general level for all graduates; that is, for the thirty-seven interview participants, or for all 123 graduates in the case of the ESWS survey data. For the latter, the analysis strategy primarily involves cross-tabulation analysis. For example, responses to questionnaire items are often examined by faculty and/or by year.

In the case of the semi-structured interview data, transcriptions were analyzed and categorized into thematic codes. To help with the coding process, the qualitative software package NUD*IST 4.0, was utilized (QSR, 1995). This computer software package was used primarily to aid with data management. Specifically, the software acted as a useful medium for examining the transcripts and categorizing (or "indexing") text into numerous codes. Briefly, the process I adopted for categorizing text while using NUD*IST 4.0 first involved separating responses for each question in the interview schedule, for each interview participant, into distinct "nodes." In NUD*IST 4.0, nodes are part of a tree-structured index system, and represent specific repositories where data can be stored and later retrieved. For example, I drew together all of the participants' responses to Question 1a into a separate node, and then repeated this process for all of the questions asked. Once this was complete, I examined all of the responses for each question, and began to categorize these responses into a number of codes (which in NUD*IST are simply just additional nodes). Depending on the range of responses given for a question, the number of codes that I developed would vary from question to question. In total, across the 43 questions asked in the interview schedule approximately 868 different codes (or "nodes") were created.

Generally, there is an inherent "quantitative" orientation to how the findings from the interviews are summarized and presented throughout Chapters 4-6. For most questions, the total number of responses are presented for the dominant codes which were created after analyzing and categorizing the text from the interview transcripts. This strategy provides a useful way of summarizing the interview data so that conclusions can be drawn which address the key research objectives and questions. Methodologically, this strategy helped inject some objectivity into how responses were analyzed and conclusions reached, thereby enhancing the validity of findings.

In addition to presenting these code totals, responses are presented throughout by faculty so that the effects of program of study can be considered. In addition, qualitative examples of participants' responses that typify the sentiments and opinions that were expressed, are presented throughout Chapters 4-6.

Interview findings are not presented by gender. The primary reason is the small female and male sample sizes within some faculties. While between 6 and 13 participants were interviewed for each of the four faculties, there were not always enough female and male cases to enable an accurate comparison by gender. For example, in the case of the Faculty of Education, only one male was interviewed, while five females were interviewed. For individuals in the Faculty of Business, only three of the eight participants were female. Given these small sub-sample sizes, the decision was made to examine the data only for the total sample, and for faculty totals. Another related reason for not examining overall findings by gender is that any possible findings would need to be weighed against the fact that some program types are inherently gendered. As such, overall findings might be biased by a disproportionate number of females or males from certain programs. For example, while only 5 percent of the overall male sample were Education graduates, 26 percent of the female sample were Education graduates. Given this type of gender distribution by faculty, there would be a constant problem with interpreting the data. With this said, one general observation that can be made is that, in analyzing the interview transcripts, there did not appear to be large differences in findings by gender. That is, for the various questions that were asked in the interviews, there were no clear patterns that males or females responded in a particular way to questions. For example, with respect to assessments of skill development, there were no obvious differences between males and females in terms of the types of responses provided.

One additional point is warranted with respect to how the interview data are analyzed in this study. The goal of the semi-structured interview approach was *not* to provide a detailed ethnographic description of each participant. That is, I did not conduct interviews in order to examine the responses of participants in the context of their own life-course. Rather, an interview data collection strategy was utilized in order to provide participants with the opportunity to respond to questions in a more open-ended manner. For example, with respect to the questions on skill acquisition, I wanted participants to volunteer information on which skills they had developed in their programs rather than having them respond to a number of pre-determined skill types in a forced-choice manner. Therefore, findings throughout Chapters 4-6 are generally analyzed and presented on a question-by-question basis, although there are some instances where larger "themes" are presented which emerged from findings across several questions. In this sense, the goal in analyzing the interview data was to generalize findings for each question for the total sample and by faculty.

Chapter 4
Findings

Graduate Employment Outcomes

As outlined in Chapter 2, one of the key research questions in this study asks how individuals have fared in the labour market since graduating from university. This is the focus of this chapter. Fundamentally, looking at graduate employment outcomes is necessary since this study is examining particular aspects of university-work linkages, specifically how university education and the skills and knowledge which are developed or acquired at university are applicable to the workplace. Therefore, it would be beneficial to examine the employment histories and current employment status of graduates in this study.

Profiling graduates' workplace experiences will also help to provide a context for the findings that are summarized and discussed in the next two chapters which focus on participants' assessments of their university education (Chapter 5) and on the employment skills they developed at university (Chapter 6). Just how graduates have fared in the labour market will be addressed in this chapter by examining: (1) the types of jobs individuals have acquired since graduating; (2) participants' experiences in looking for work after they graduated; (3) graduates' evaluations of various characteristics of their jobs; (4) graduates' satisfaction with their jobs; and (5) the degree of self-reported match/mismatch between graduates' jobs and their education. The analysis is guided by several of the research questions which were posed at the end of Chapter 2:

1) How are 1989 graduates faring in the labour market? What types of jobs have interview participants acquired since graduating?

2) How do graduates assess the degree of match/mismatch between their university education and their jobs?

3) Are graduates satisfied with the jobs they have acquired?

4) Have graduates' assessments regarding the degree of education-job match/mismatch, or their job satisfaction changed over time?

5) Do graduates' employment experiences vary by program of study?

The findings allow an objective assessment to be made of the value of a university education, as defined in terms of graduates' employment outcomes. In the context of the public policy debates summarized earlier, just how these graduates have fared in the labour market over the past several years can inform us about the labour market value of the human capital they acquired in university. This issue of human capital formation will be re-addressed in Chapter 6, when findings on graduates' perceptions of their employment skills are presented.

Throughout this chapter and the next two chapters, the reader should note that most of the analysis will be based on the 1997 interviews. Whenever findings from the 1985-92 ESWS questionnaires are presented, this distinction of the data source will be made explicit. Otherwise, the reader should assume that the findings presented reflect 1997 interview data. The use of the term *"participants"* throughout these chapters draws attention to this fact, since those individuals who agreed to be interviewed in this study are often addressed as "interview participants." In contrast, when discussing findings from the 1985-92 ESWS data, the use of the term *"respondents"* draws attention to the fact that individuals who completed questionnaires in that study were "survey respondents."

1. Employment Outcomes

a) *Jobs Acquired Since Graduating*

All thirty-seven interview participants had worked in at least one job since graduating from university. Almost all of them were currently working in full-time jobs. Three women were on maternity leave from their full-time jobs. Two other women had recently quit their full-time jobs because of re-locating to another city, and because they also recently had children. Another graduate was working at a part-time job while attending community college full-time. Three more individuals were self-employed. One of these individuals said she was first and foremost a "home-maker" and also ran a small sheep farm as a side business.

On average, individuals had been working in their current job (or most recent job) for thirty-four months, or just under three years. However, there was some variation here from person to person. For example, six individuals had only been working in their current jobs for less than a year, while another six participants had been working in their current jobs since they graduated from university in 1989 (approximately 8 years). On average, individuals had been employed in 3.5 jobs since graduating. This varied little by faculty. The highest number of jobs that any of the participants had held was seven (four individuals). Most people who had held many jobs had changed jobs because they were working in short-term contract positions, or because they simply chose to leave their job for personal reasons. Those individuals who had held the fewest number of jobs since graduating usually had been working for large companies or government organizations. A listing of jobs held by participants at the time they were interviewed in 1997 is presented in Table 1.

At first glance, Table 1 reveals that interview participants held a wide range of jobs in 1997. Another very general observation is that most of these jobs seem to be "good" jobs. For example, many participants seem to have been in jobs which were challenging and would require post-secondary education or other training. However, additional information is required in order to adequately assess these jobs. More will be said about this later in the chapter when findings are presented on participants' assessments of their jobs.

Table 1 reveals that Education and Business graduates have typically acquired jobs which are more closely related to the substantive content of their degree programs. For example, only one Education graduate, Cloe, was not actually working as a school teacher. Nevertheless, she did work with children to some degree as a supervisor for "Parks and Recreation." Business graduates also had acquired jobs which were closely related to their academic programs. For example, seven of the eight Faculty of Business graduates were working in jobs associated with the day-to-day functioning of a business or organization.

About half of the Science graduates (6 of 13) had acquired jobs by 1997 that were at least somewhat related to their academic programs. Three of these individuals, Daniel, Tim, and Sarah (two computer programmers and an occupational therapist), were working in jobs that were directly related to the substantive content of their degree programs.

Table 1
Occupations of 1997 Interview Participants

Participant	Faculty	1997 Occupation (or most recent occupation)
Darren	Arts	Financial Advisor
Ken	Arts	General Labourer/ Maintenance
Ron	Arts	Waiter/ Student
Maurice	Arts	Processing – Chemical Plant
Rob	Arts	Elementary School Teacher
Erin	Arts	Manager – Visual Arts Coordinator
Janet	Arts	Manager – Food & Beverage/Services
Julie	Arts	Social Worker
Trina	Arts	Para-legal
Melanie	Arts	Publisher's Sales Representative
Leo	Science	Small business owner
Ali	Science	Mailroom/part-time teller - bank
Peter	Science	Pilot
Daniel	Science	Systems Analyst/Computer Programmer
Tim	Science	Computer Programmer
Blain	Science	Processing – Petroleum Plant
Jeremy	Science	Business Analyst
Mary	Science	Home-maker/ Pharmacist
Carey	Science	Home-maker/ Small farm owner
Krista	Science	Pharmaceutical Sales Representative
Chantel	Science	Information Systems technician
Catherine	Science	Community College instructor
Sarah	Science	Occupational Therapist
Bill	Business	Information Systems technician
Gary	Business	Tax consultant/ Accountant
Vic	Business	Financial Management/ Accountant
Dave	Business	General Manager - Real Estate
Mike	Business	Financial Advisor
Heather	Business	Financial Advisor
Shelley	Business	Administrative Officer
Pamela	Business	Manager – Sales
Jonathan	Education	Elementary School Teacher
Olivia	Education	Elementary School Teacher
Trisha	Education	Junior High School Teacher
Tara	Education	Elementary School Teacher
Cloe	Education	Supervisor- Parks and Recreation
Lori	Education	Secondary School Teacher

On the other hand, Arts graduates had acquired a wider range of jobs than individuals in the other three faculties. For example, Rob, Julie, and Trina were working in public service occupations as an elementary school teacher, a social worker and a para-legal, respectively. Two other Arts graduates, Erin and Janet, were working as managers in public services and the food and beverage industry. The other Arts graduates in the sample were working in maintenance positions (Ken), as a processing operator (Maurice) and in sales (Melanie). At first glance, only one Arts graduate out of ten, Erin, (a visual arts coordinator) had acquired a job which was directly related to the substantive content of her academic program (fine arts).

One reason why Arts graduates may have acquired a wider range of jobs than other graduates is that for most there were no obvious "Arts" jobs to apply for after they graduated. As I will discuss in Chapter 5, Arts graduates were more likely to indicate that a weakness of their programs is that they did not lead to a specific job after graduating. Nevertheless, Arts graduates were not necessarily more likely to have had difficulty finding work, especially after they graduated (this information will be outlined in more detail in the next section). Another explanation might be that Arts graduates did not desire to work in jobs directly related to the substantive content of their programs. However, when asked about the extent to which they desired a job which closely matched their education, four of seven Arts graduates said that having such a job would be important to them, which suggests that this migth not be a valid explanation.

Another plausible explanation for the more diverse range of jobs that Arts graduates had obtained by 1997 is that they had acquired employment skills in their programs which are more portable than graduates in the other faculties. This explanation may be somewhat debatable because of the difficulty in defining and identifying portable skills. As well, as I will demonstrate in Chapter 6, graduates from at least two other faculties (Science and Business) identified just as many skill types which they had learned in their programs, and which might be viewed as "portable" (e.g., basic or general workplace skills). Still, the fact that Arts graduates had acquired a wider range of jobs does at least suggest that their skills are transferable and applicable to different occupational fields.

b) *Experiences in Looking for Work after Graduating*

With the intention of better understanding interview participants' transition to the workplace after graduating, they were asked the following question: (1)*"What was it like for you looking for a job after you graduated?"* (Question 10a from the interview schedule; see Appendix 1). As well, some participants were asked the following supplementary question: (2)*"Was having a university degree helpful for you in terms of looking for work?"* (Question 10b).

In response to the first question, just over two-thirds of the sample (67 percent), or twenty-four of thirty-six participants, indicated that looking for work and/or getting a job was "easy" or "somewhat easy" after they graduated[1]. There were no notable differences by faculty in this respect. One important finding is that one quarter of these participants (6 people, including 3 Arts, 2 Science and 1 Education graduate) said that it was not difficult to look for and find work because they had already been working for their employer prior to graduating.

On the other hand, just under one-third of participants (11 individuals or 31 percent) suggested that looking for employment was either "difficult" or "very difficult." More Science graduates (6 individuals) indicated that they had a difficult time looking for work than did graduates from other the faculties (2 Business, 2 Arts and 1 Education graduate). This finding is interesting given the common perception that Arts graduates are more likely to experience difficulty finding employment upon graduation.

What distinguishes the twenty-four individuals who had fewer difficulties finding work from the eleven individuals who did have problems? One explanation is that timing of labour market entry, coupled with participants' field of study, may have played a factor in their ability to find work. Opportunities in the labour market in particular fields may have been more restricted for some individuals because of the economic downturn in the early 1990s, and because of greater fiscal re-structuring by government and industries at this time. A couple of Business graduates who indicated that their initial search for employment was not necessarily difficult provided the following comments on this point:

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[1] This question was not applicable for one participant who had moved to the United States immediately

Jeff:
Ok- now I'd just like to switch gears a bit here and <Ok> talk a bit about your work experiences <Ok>. So what was it like looking for a job when you first graduated?
Gary:
Uh- I was lucky- because of I happened to graduate at the right time <hm-hmm>. Um- it was a very good market <Ok>. Lots of jobs- there were more-more job opportunities than there were students to fill them so <In 1989?> Yeah 1988 was when I actually <when you actually finished?>. When I recruited for my jobs <Oh Ok> We-we do it almost a full year <right> in advance <at that recruiting (yeah) fair?> yeah. So there was really no- No question about whether I was gonna to be get a job. It was just a question of who it would be with and you know whether I'd get the particular- particular job that I wanted.

Jeff:
Can we switch gears here and talk a bit more about your work experiences? <sure> A few questions just making a link between university and the workplace <Ok>. So what was it like for you looking for a job when you finished eventually?
Vic:
The timing was really good for me. It was kind of the last year when there was more demand than supply. <yeah> I get the impression from talking to younger people that the tables had turned for a few years after my class graduated <Ok> so I think for the people a year ahead of us it was almost you know go for as many dinners and lunches <Ok> and pick what firm <right> you want to work for. For me it wasn't quite that easy <Ok> but having worked a summer in a place that I got along well with, I had pretty much a guaranteed job on graduation <Ok> but I think for the students a year or two behind me, the tables turned a lot and they really had to stand out in order to get a good job.

Both of these Business graduates graduated from university in the spring of 1989. As shown, they expressed positive comments about labour market opportunities for graduates in their specific field (accounting) at that time. Compare this to remarks from two Science graduates who also graduated in the spring of 1989.

Jeff:
Um, just thinking back now though first of all, what was it like for you looking for a job right away?
Krista:
It was extremely difficult [she stresses this]. Um, I graduated um in actually I graduated early, and I graduated [i.e., or completed program requirements] in December <Ok> of '88...
Jeff:
And-and looking for work?
Krista:
And looking for work. And yet there were really no jobs that were related to my field <Ok>. And so what I did was instead of sitting on my butt, um I decided that you know I'll do anything to get a pay-cheque kind of thing <right>. So um what I ended up being is- was working for Company X which is a large insurance company <yes Ok>... So I did that for eight months knowing full well that it was going to be a temporary thing, as I'm still looking for a job.

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upon graduation as part of a work experience program.

Jeff:
So were- at that point when you graduated were you kind of actively seeking something that you might be able to use your- some of your background in zoology?
Leo:
I uh- I spent about a year <spent about a year looking?> Yeah looking for something <yeah>. But at that time 'whoa'. That happened a lot in here?? But I didn't. But in this area in Alberta anyways there wasn't- there- wasn't anything related to my field.
Jeff:
Was it disappointing? Like did you want to find something?
Leo:
Oh yeah I mean <yeah> you spent four years in university <yeah>. You know?

It is interesting to note that all six of the Science graduates who had difficulty finding work suggested that they were at least somewhat frustrated that no jobs in their field were available to them upon graduation. All eleven graduates who had difficulties finding jobs mentioned that they either could not find a job in their field after they graduated, and/or that they could not find work because "times were difficult."

As outlined earlier, some participants were asked the following supplementary question, *"Was having a university degree in your field of study helpful for you in terms of looking for work?"* Nine of eleven people asked this question specified that having a degree in their area of study was at least somewhat helpful when looking for work. Six of these nine individuals did not necessarily have any difficulty finding work upon graduating. Only two individuals (the Science graduates quoted above) indicated that having a degree in their area of study was not helpful.

Besides timing of labour market entry and field of study, another factor which seems to have played a part in participants' success in finding employment is personal contacts. For example, of the twenty-four participants who did not have any difficulty finding work, exactly half (12 individuals) either had personal contacts which put them in touch with their future employers or had prior work experience with their employers. In fact, at least nine of the twenty-four individuals (38 percent) who did not have any difficulty finding jobs had worked for their employer at an earlier point in time. This finding is consistent with recent Canadian research on job searching techniques which shows that those with the least amount of work experience (typically youths) are more likely than those with more work experience to find jobs through personal contacts (Grenon, 1999).

Another factor that seems to have benefited some graduates was that their programs provided more contacts with employers. For example, some Faculty of Business graduates mentioned that the "Job/Recruitment Fair" organized by their faculty was very helpful, as well as the presence of a "Job Board" in their faculty. This was suggested by Gary, one of the Business graduates quoted above. Besides these individuals, one Science graduate noted that students in her department (Forestry) had contact with employers in their last year of studies and that this was helpful.

One minor theme that was noticeable throughout the interviews was a reference to "a lack of job experience." For example, six graduates indicated that a problem that they or other graduates had when looking for jobs was a lack of work experience. Four of these six participants mentioned a "catch-22" situation that occurs for many graduates. Specifically, these people noted that without any work experience it is difficult to get a job, and without obtaining a job, it is difficult to get work experience. Related to this, several people suggested that university administrators could perhaps build into their programs more opportunities for gaining work experience. For example, a couple of individuals cited co-op programs as a good place to gain this type of experience. More specific references to university work experience and co-op programs will be presented in the next chapter when I examine in greater detail participants' assessments of their university education.

Summing up, about two-thirds of graduates had few difficulties finding employment. However, among those who did have difficulties, a number of factors played a part. Field of study, the timing of labour market entry for individuals from particular fields, as well as personal contacts all influenced the ability to find jobs. These factors point to both structural conditions in the labour market (e.g., timing of labour market entry) and to individual factors (e.g., choice of field of study, personal contacts) as explanations for success in finding employment. This information would be important for policy-makers to consider because it suggests that individual-level explanations of labour market outcomes (i.e., a human capital perspective) may not be sufficient. Structural conditions in the labour market might also significantly affect graduates' differential success in finding employment.

There are also other potential factors beyond those outlined here which may have played a role in graduates' transition to the workplace. This could include, among other things, the types of job search strategies that individuals adopted, and more generally the influence of individual attitudes, values and aptitude with respect to finding jobs and working. Such factors may also have emerged as part of the cultural capital transmitted to individuals by parents and their environment. For example, there may be greater expectations placed on some individuals to aspire to certain prescribed career paths. Beyond this, variations in the type of career counseling that individuals experienced in their programs, at the University more generally or in the community, may have had an impact on their ability to find meaningful work. While examining some of these additional factors is not the direct focus of the current study, it is important to recognize their potential influence.

c) *Evaluations of Job Characteristics*

As another way to examine employment outcomes, participants were asked to assess a number of characteristics of their jobs. The specific questions included:

(I) *Overall, how complex would you say your job is? In terms of job complexity, how does this job compare to the other jobs you've had since graduating?*
(II) *How much of an opportunity is there for you in taking initiative or making your own decisions in this job?*
(III) *How long would it take to learn to do this job well?*
(IV) *Do you have any supervisory responsibility in your current job?*
(V) *Have you had any formal job-training in the jobs you've had so far, or have you learned things more informally while on the job?*
(VI) *Would you consider this to be a skilled job?*
(VII) *Could you describe for me the types of things that you do in your job?*

Many of these questions were designed to examine inherent skill-related features of jobs. For example, Question II has been used by sociologists to determine levels of autonomy in jobs. Responses to this question will also be compared to results for the same question asked in the 1992 ESWS. Several of the other questions, specifically III through VI, are similar to those used by Gallie (1994). While Gallie's primary aim was to examine changes in the skill content of jobs over time (the *skill in jobs* perspective), these items are used here to profile the skill-related features of graduates' jobs.

Findings for all of these questions will be presented in order, although findings for Question VII are generally omitted. Since responses to this question are very specific to the jobs of each participant, it would not be as constructive to present all of the responses. Nevertheless, I will draw upon them where a better description of a particular job is required.

(I) *Overall, how complex would you say your job is?*

When asked about the complexity of their current (or most recent) jobs, twenty-three of thirty-six individuals (64 percent) said their jobs were "complex" or "very complex." In contrast, eleven interview participants said that their jobs were "not complex" (31 percent) and two individuals were ambivalent about the complexity of their jobs. All but one Education graduate, and all but two Business graduates, said that their jobs were complex, while only about half of Arts and Science graduates answered in this manner. Among the Business graduates who said that their jobs were complex, two were accountants, two were financial advisors, one was the manager of a real estate firm, and one was a computer systems technician. The five Education graduates who said they had complex jobs were all public school teachers (see Table 1). The following excerpt is from an interview with Jonathan, one of the Education graduates.

Jeff:
I was gonna ask you how complex do you find your job is as an elementary school teacher?
Jonathan:
Extremely <extremely complex?>. I mean dealing with uh psychological aspects of adolescence <yeah> itself is a job [he laughs].
Jeff:
Sort of geared to [this] grade 7 kind of age group?
Jonathan:
Yeah when I think of my particular age group, I mean, again how do you uh get a masked concept across to them <yeah> and then next block how do you teach them to appreciate art and music and then at lunch hour how do you teach them to not uh, turn around and punch someone <hm-hmm> as a, as a good problem-solving technique in uh dealing with a friend you know <right>. So <yeah>.
Jeff:
So extremely complex in a, in a lot of capacities.
Jonathan:
And then that's just dealing with, dealing with student-side. Then there's dealing with administration and paperwork and report cards and <hm-hmm> communicating with parents and yes uh it's extremely complex.

More than any other group, the Education graduates were able to identify some of the specific reasons why their jobs as school teachers were complex. This could have been because those who were teachers believed that they had many different types of responsibilities to assume in their job, compared to graduates from the other faculties. For example, the Education graduate quoted above notes how working with students, parents, plus the administrative aspects of his job, all contribute to a high level of job complexity. Many of these very same points were raised by the other school teachers.

Twenty-one of the participants were asked a follow-up question on this issue of job complexity: *"In terms of job complexity, how does this job compare to the other jobs you've had since graduating?"* About half of these participants (10 individuals) said that their current job was more complex than the others they had acquired since graduating, five that said all of their jobs were complex, while only two individuals said that they currently had jobs which were "less complex." It is perhaps not surprising that more individuals indicated that they had more complex jobs in 1997, since over time they would have acquired more work experience and therefore would be in a more advantageous position to seek out jobs which were "more complex." Although I did not collect data on a non-university graduate sample, these findings do suggest that over time, university graduates may acquire more complex jobs.

(II) *Decision Making in Job*

i. 1992 Findings

As part of the 1992 ESWS questionnaire, sample members were asked a few questions about the jobs they had acquired up until that time. As a way of describing the amount of job autonomy available in their jobs, individuals were asked to reply to the statement: *"I have the freedom to decide what I do in my job."* More than half of the 123 respondents (52 percent) either "agreed" or "strongly agreed" that they had the freedom to decide what to do in their job. On the other hand, just under one-quarter (23 percent) "disagreed" or "strongly disagreed" with this statement. Another 25 percent of respondents provided a neutral response.

In contrast, responses to this question by *non-university* graduates in 1992 reveals that a little more than four-tenths of them (43 percent) either "agreed" or "strongly agreed" that they had the freedom to decide what to do in their job, while twenty-five percent "disagreed." This indicates that university graduates believe they have more autonomy in their jobs than do non-university graduates. As I outlined in Chapter 2, an indication of job autonomy is used by researchers as one way of estimating the skill level of a job. While it cannot be concluded on this basis alone that university graduates have jobs which are more skilled, these findings provide some support for this conclusion.

ii. 1997 Findings

In 1997, thirty-one participants were asked a similar question: *"How much of an opportunity is there for you in taking initiative or making your own decisions in this job?"* A large majority of these individuals (27 people, or 87 percent) said that they had "a lot" (20 people) or "some" (7 people) opportunity for taking initiative in their jobs (including 10 Science, 7 Business, 7 Arts and 3 Education graduates). Only four people said that they had little opportunity for taking initiative (including 2 Arts, 1 Science and 1 Business graduate). Generally, these results reveal that there were few differences by faculty[2].

Eleven individuals were asked a follow-up question which had them reflect on the amount of initiative or decision-making that was provided to them in the other jobs they had acquired since graduating. Of these eleven people, seven said that they had "a lot" (6 people) or "some" (1 person) opportunity for taking initiative, while four individuals indicated that they did not have much opportunity in this respect.

Therefore, it appears that, overall, most 1997 interview participants believed that their jobs (current or prior jobs) afforded them the opportunity to take initiative or make their own decisions.

iii. Comparisons between 1992 and 1997 Findings

Although the question wording differed slightly between 1992 and 1997, some general comparisons of the findings are still possible. The results reveal that more than one-half of 1992 respondents (52 percent) and approximately nine-tenths of 1997 interview participants (87 percent) believed that they had a reasonable amount of job autonomy by virtue of having the freedom to decide what to do in their jobs. Thus, the percentage of individuals who believed they had such autonomy was much larger in 1997 than it was in 1992.

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[2] It is somewhat difficult to compare Education graduates here, since only three individuals were asked this question. The reason for this is that almost all of these Education graduates were public school teachers and the question as stated, did not seem as applicable to them.

Methodologically, one explanation for this difference over time might be that the results are based on different sample sizes. However, as I have already outlined in Chapter 3, the findings for the 35 member interview sample are generally quite reflective of the larger 123 member sample. Indeed, if we look at the results for the interview participant sample for this particular question in 1992, we find that almost exactly the same percentage of individuals (53 percent) either "agreed" or "strongly agreed" that they had freedom to decide what to do in their jobs, as did the larger 123 member sample (52 percent).

Instead, what might be suggested by the increase in percentage from 1992 to 1997 is that, with accumulated work experience, graduates may have acquired jobs which offered greater levels of autonomy. That is, while more than half of the graduates in this study initially acquired jobs which provided them with autonomy on the job, over time graduates seem to be even more likely to gain autonomy. This finding suggests that, for this particular feature of jobs, university graduates in this study seem to have fared well.

(III) *How long would it take to learn to do this job well?*

Another question participants were asked in 1997 was: *"How long would it take to learn to do this job well?"* For jobs that required more specific education or job training (e.g. school teachers, accountants), individuals were told that, when answering, they could assume that someone beginning the job would have the required credentials. Of the thirty-three participants who were asked this question, twenty-nine were able to provide an approximate time frame. Of these, eleven people (38 percent) said it would take less than 1 year to learn to do their job well, ten people (34 percent) said it would take 1-2 years, four individuals (14 percent) said it would take 2-3 years, two individuals (7 percent) said it would take 3-5 years, one person (3 percent) said it would take 5-10 years, and one more (3 percent) said it would take more than 10 years. Another three individuals did not include a time frame in their answer. These people said that they were still learning their jobs and therefore were not really certain how long it would take to learn to do the job well.

Thus, two-thirds of participants (66 percent) who responded to this question indicated that it would take more than one year to learn to do their job, and more than one-quarter of participants (27 percent) said that it would take more than two years. These findings suggest that the jobs that these graduates had acquired are not routine but rather require a reasonable amount of time to learn to do well. Indeed, the fact that two-thirds of participants indicated that their jobs would take more than a year to learn parallels the finding that 64 percent of individuals specified that their jobs were "complex" or "very complex."

(IV) *Do you have any supervisory responsibility in your current job? Did you have any supervisory responsibility in your other jobs?*

Participants were asked if they had any supervisory responsibility in their current jobs[3]. Nine people (29 percent) indicated that they *did* have ongoing supervisory responsibilities in their current job. Business graduates were somewhat more likely to specify this, as four of eight individuals said they were supervisors, compared to two Arts, two Science and one Education graduate. Overall, six of these nine individuals were "managers" of some sort. Another four individuals (14 percent) indicated that they had some supervisory responsibilities in their current job, although only on an occasional basis. Fifty-five percent of individuals (16 people) indicated that they did not have any such responsibilities in their job.

Eighteen people were asked a follow-up question which asked if they had any supervisory responsibilities in any other jobs they had acquired since graduating. Of these, eight individuals (44 percent) indicated that they did not have any such responsibilities, six people (33 percent) indicated that they did have some supervisory experience, and another four people (22 percent) said they had "some" responsibilities. Of these eighteen individuals, only two indicated that they now had supervisory responsibilities, whereas they did not in their earlier jobs.

According to the National Occupational Classification (NOC), "supervising" comprises one element on which the skill levels of occupations are assessed. The results here suggest that about three-tenths of graduates in this study had supervisory responsibilities in their jobs by 1997. Data from the 1995 National Graduates Survey found that two years after graduating, approximately thirty-one percent of 1995 university graduates were in management roles (i.e., had supervisory responsibilities)

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[3] Education graduates were not asked this question, because in light of their jobs (as public school teachers), the question did not apply to them.

(Krahn and Bowlby, 1999 forthcoming). It is interesting to note that findings from the current study are consistent with these recent national data on university graduates. Furthermore, findings based on the Standard Occupational Classification (SOC) reveals that 14 percent of all Canadians in 1996 were working in "managerial/ administrative" occupations (Statistics Canada, 1997). The thirty-three percent of university graduates in the current study who were supervisors (i.e., based on current and prior jobs) is about twice as large as this figure. Overall, this suggests that a number of graduates in this study are acquiring "skilled" jobs on the basis of their supervisory responsibilities.

(V) *Have you had any formal job-training in the jobs you've had so far, or have you learned things more informally while on the job?*

Another feature of jobs that participants were asked about was training[4]. This question was asked to determine the type of training that graduates may have needed, above and beyond what they may have learned in their university programs. Thus, this question directly addresses concerns of policy-makers and other education critics that many graduates may be inadequately trained when they enter the workplace.

Overall, of the twenty-nine individuals asked this question, seventeen (58 percent) indicated that they had received some formal training at some point in their current or most recent job, while twelve individuals (42 percent) had not. Besides this, more than two-thirds of participants (69 percent, or 20 people) said that most of the training they had received in their jobs was of an informal nature. Eight of these people had not received any formal training in their jobs, while twelve people had received at least a small amount of formal training, in addition to the informal training.

Of the seventeen individuals who had received formal training in their current jobs, only two indicated that this was "introductory" training that they received when they began their jobs. Many of the individuals who had received formal training (11 of 17 people) indicated that this was "in-house training" and took the form of short courses at their workplace. On average, most of these individuals indicated that these courses lasted for a couple of days. Eight people said that this in-house training was "on-going" training at their workplace and involved periodic courses pertinent to their specific jobs. Two of the seventeen people said that their formal training had involved "testing" and that they had acquired a necessary certificate for their jobs. Both of these individuals were processing operators in large petroleum and chemical plants in the Edmonton region. Formal training for another two individuals also involved testing, however this was done in order to maintain their current professional licenses. Besides the seventeen people who had received formal training in their current jobs, another four individuals had received formal training in prior jobs.

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[4] The eight participants who were public school teachers were not asked this question, although they might have been since teachers do participate in some formal training programs over the course of their careers.

Together these results suggest that more graduates had received informal rather than formal training. Most individuals indicated that this informal training involved learning the day-to-day operations of their jobs. Of those individuals who had received formal training, a majority of these specified that this training was specific job training that was required.

Based on these results, it would appear that the training that these graduates did receive was specific to the day-to-day functioning of their jobs and was not necessarily extensive. For example, these graduates did not indicate that they required additional post-secondary education in order to be able to perform their jobs. Since specific training is a normal feature of many jobs, it does not appear that these graduates were necessarily "unskilled" for their jobs. However, this is a tentative observation. That is, I will return to this issue in greater detail in Chapter 6, when I examine graduates' assessments of their employment skills.

Besides this question, participants were also asked: "*Do you think it's the responsibility of employers to spend their time training workers on the things they want them to know?*" A large majority of graduates, or 93 percent (25 of 27 people) said that it was employers' responsibility to train workers. Of these, ten graduates simply said that employers needed to train workers if they wanted them to perform their jobs properly. Similarly, six individuals believed that employers needed to teach workers specific skills in order to perform their job. Another five of these twenty-five participants suggested that it was ultimately good for a company or organization to train their workers. Seven more individuals (26 percent) agreed that employers need to train workers but also mentioned that it was partially the individual's responsibility to make sure they had the proper training. Only one individual believed that it was *not* the employer's responsibility, but instead was the responsibility of universities to train individuals.

Thus, almost all participants believed that employers were responsible for training workers for the things they needed to know on the job. However, about one-quarter of participants believed that it was partially the individual's responsibility as well. Generally, the types of responses that individuals provided suggests that they looked to employers to teach them specific skills for their jobs, but not necessarily generic skills.

(VI) *Would you consider this job to be a skilled job?*

A large majority of interview participants (94 percent, or 31 of 33 individuals) indicated that their jobs were skilled jobs. Only one graduate said that his job was not skilled. When asked to explain, a majority cited the specific substantive knowledge that they needed to do their jobs (17 references, from 7 Science, 4 Education, 4 Business and 2 Arts graduates). It is interesting to note that, compared to other graduates, fewer Arts graduates indicated that their jobs were skilled because of specific substantive knowledge which was required. One explanation might be that Arts graduates had worked in a wider range of occupations. Hence, it might be expected that they would not be utilizing specific substantive knowledge that they had acquired in their programs to the same extent as others.

Another common reason why jobs were said to be skilled was that *communication skills* were required (9 references from 4 Education, 2 Arts, 2 Science and 1 Business graduate). Education graduates were somewhat more likely to indicate that their jobs were skilled because of required communication skills. In addition, four participants noted that analytic and problem-solving skills were needed on the job.

Summary

To summarize this section, individuals who were interviewed in this study had worked in a number of different occupations since completing their programs several years earlier. On average, individuals had worked in 3.5 jobs since graduating. Nevertheless, by 1997, most individuals were working in full-time positions. Most of the Education and Business graduates and half of the Science graduates were working in jobs which were directly related to the substantive content of their programs. On the other hand, Arts graduates were working in a more diverse range of jobs in 1997 and less likely to be working in jobs related to their programs.

Only about one-third of graduates indicated that they had difficulty looking for work. Science graduates had somewhat more difficulty finding work compared to others. For those graduates who did have difficulty, it appears that timing of labour market entry was a factor, although this seems to have been more pertinent for graduates in certain fields of study (e.g., Science). One of the reasons for this may have been a more restricted labour market in the late 1980s and early 1990s for these graduates.

A very large majority of individuals said that their jobs were "skilled jobs." As well, a majority of graduates indicated that their jobs were complex and had become more complex over time, that their jobs would take more than one year to learn to do well, and that they were positive about the amount of job autonomy they had. Besides this, approximately one-third of graduates had supervisory responsibilities in their jobs, which according to the National Occupational Classification, is a basis for assessing these jobs as "skilled."

Education and Business graduates were more likely to say that their jobs were "complex." All but one of the Education graduates were public school teachers, and many cited a number of different reasons why their jobs were complex. As well, at least half of all Business graduates were supervisors or managers in their jobs, which could have influenced how they assessed the complexity of their jobs. Besides this, Science, Education and Business graduates were more likely to specify that the reason their jobs were "skilled jobs" was because of the specific substantive material they needed to know on the job. As suggested earlier, the reason Arts graduates were less likely to answer in this way may have been because they frequently were working in jobs which were less related to the substantive content of their fields of study.

Thus, overall, it appears that graduates had been reasonably successful in finding jobs which they believed were "good" jobs. The fact that many of these individuals had acquired a number of good jobs either suggests that they had a lot of skills and abilities to offer employers, or that jobs had been plentiful for them in the labour market since graduating. The latter explanation is less plausible.

While the unemployment rate in Alberta has been lower than the average rate in Canada throughout the 1990s, it has still been a difficult climate for younger Canadians, including post-secondary graduates, in terms of finding good jobs. The economic recession in the early 1990s, as well as much government and corporate down-sizing over the last decade, have had a negative impact on the youth labour market. As some of the participants noted throughout the interviews, "times were tough" when they graduated. Still, many of them managed to find jobs, and jobs which they were positive about on a number of dimensions.

Thus, as indicated, by their success in the labour market since graduating, a university education has been of value to these graduates. It would also appear that these graduates have a lot of skills and abilities to offer employers. More will be said about the specific employment skills that graduates believed they acquired in their programs in Chapter 6.

2. Job Satisfaction

i. 1992 Findings

In 1992, ESWS respondents were asked the question, *"How Satisfied are you with your Job?"* At that time, more than six-tenths (61 percent) of all 123 sample members said that they were either "satisfied" (40 percent) or "very satisfied" (21 percent) with their jobs whereas only 13 percent said that they were either "dissatisfied" (10 percent) or "very dissatisfied" (3 percent). These results are reasonably comparable with other research which has been conducted on university graduates. For example, results from the 1997 Alberta Graduate Survey, which questioned 6012 1994 Alberta graduates about their job satisfaction, found that 71 percent of individuals were "satisfied" or "very satisfied" (Krahn and Lowe, 1998).

Looking at additional research on job satisfaction, a 1996 Angus Reid survey found that 90 percent of all Canadian workers indicated that they were "satisfied" or "very satisfied" with their jobs (Edmonton Journal, 1996). These findings suggest that, while younger Canadians, such as university graduates, are satisfied with their jobs, they may not be as satisfied as others, particularly older Canadians. Results from other studies such as the 1989 General Social Survey (GSS) help to confirm this. For example, the GSS showed that, while 48 percent of 15-24 year-old workers were "very satisfied," 51 percent of 25-34 year-old, 58 percent of 35-44 year-old, 64 percent of 45-54 year-old, and 69 percent of 55-64 year-old workers said that they were "very satisfied" (Krahn, 1992). A number of reasons have been cited for this age-related pattern, including that younger and older workers have different expectations associated with work, that older workers are more likely to hold "better" jobs given their experience in the labour market, and that older workers may have other experiences in their life which compensate for dissatisfying work. Given some of these reasons, we might expect that 1997 interview participants would be more satisfied with their jobs than were the 1992 ESWS respondents. I will present this information in the next section.

Continuing with the 1992 ESWS data, Table 2 reveals responses to this question from graduates of the four faculties being considered in this study.

Table 2
1992 Responses to the question:
"How Satisfied are you with your Job?" by Faculty[5]

		Dissatisfied		Neutral		Satisfied	
Faculty	N	N	%	N	%	N	%
All respondents	123	14	13	28	26	66	61
Education	22	3	14	3	14	16	73
Business	20	1	5	6	30	13	65
Science	23	5	22	5	22	13	57
Arts	17	4	24	6	35	7	41

As the last columns in Table 2 reveals, Education (73 percent) and Business graduates (65 percent) were somewhat more likely to indicate they were satisfied with their jobs in 1992. Compared to the other three faculties, fewer Arts graduates (41 percent) said that they were satisfied with their jobs, although about the same percentage of Arts and Science graduates said that they were dissatisfied with their jobs (22 and 24 percent respectively). I have already noted that Science graduates seem to have had more difficulty finding work after they graduated, which could help to explain why they were somewhat more dissatisfied with their jobs compared to Business and Education graduates. On the other hand, Arts graduates may have been more dissatisfied with their jobs in 1992 because they were not as likely to be in jobs that were directly related to their fields of study. As I will outline in Section 3b of this chapter, Arts graduates were more likely to say that they were "overqualified" for their jobs in 1992. This, in turn, could help to explain why fewer Arts graduates were satisfied with their work at that time.

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[5] Respondents were asked to respond on a scale of "very dissatisfied" (1) to "very satisfied" (5). Scores of 1 and 2, and 4 and 5 are combined. Totals may not add to 100% due to rounding off.

Another question from the 1992 ESWS questionnaires which addressed respondents' job satisfaction read, *"If you had the choice to make again, would you choose the same type of work you now do?"* More than seven-tenths of all 123 respondents (71 percent) said they would choose the same type of work again. Among the 32 individuals that indicated they would not make the same choice, the most frequent reason cited was "cannot use skills" (5 references), "dislike present job" (4 references) and "want job potential" (4 references).

These findings are interesting given additional research on this type of measure of job satisfaction. For example, "behavioural intention" measures such as this typically reveal that fewer individuals express satisfaction with their jobs. For example, a 1996 Angus Reid survey found that 68 percent of individuals said that they would take a comparable job at another company if it were offered to them (Edmonton Journal, 1996). Nevertheless, as outlined earlier, 90 percent of the same Angus Reid survey respondents indicated that they were generally satisfied with their jobs. Thus, the findings in the 1992 ESWS are interesting since a *greater percentage* of university graduates indicated that they would choose their job again (71 percent), compared to the 61 percent of sample members who said that they were satisfied. One of the reasons for these differences across studies is that university graduates are perhaps more inclined to recognize that they are acquiring "good" jobs and therefore tend to say that they would choose these jobs again, even though they may be unsatisfied with some aspects of these jobs.

As shown in Table 3, a majority of graduates in all four faculties indicated that they would choose the same type of work again. Education graduates were somewhat more likely to respond "yes" to this question than individuals from the other faculties. However, in comparison to the findings from the first question on job satisfaction (outlined above in Table 2), respondents from the other three faculties differed somewhat in terms of their responses to this question. For example, both

Table 3
1992 Responses to the question:
"If you had the choice to make again, would you choose the same type of work you now do?" by Faculty

			Percent		
Faculty	N	N	Yes	N	No
All Respondents	123	77	71	32	29
Education	22	17	77	5	23
Arts	17	12	71	5	29
Science	23	16	70	7	30
Business	20	13	65	7	35

Arts and Science graduates were more positive in their assessments of their jobs than was suggested by their answers to the previous question. As well, Arts and Science graduates were more likely than Business graduates to say that they would choose the same type of work again, which is the opposite from findings for the first question.

Thus, as Rinehart (1978) suggests, it is important to consider different measures of job satisfaction. That is, while individuals may indicate they are satisfied with their jobs, behavioural intention measures (the second question presented here) usually present different findings. As mentioned, findings from such measures tend to show that individuals rate their satisfaction with their jobs somewhat more negatively. In the case of the university graduates examined here, findings for this measure are opposite to what might be expected. By faculty, findings reveal that Arts graduates in particular and also Science graduates to some extent, were not as dissatisfied with their jobs in 1992, as they might have appeared to be according to the first satisfaction measure. Perhaps graduates in both of these faculties were unsatisfied with aspects of their jobs because of their initial expectations, but still believed that they had acquired reasonably "good" jobs.

ii. 1997 Findings

Interview participants in 1997 were also asked to assess their job satisfaction by way of two questions. The first question read: *"Overall, how satisfied are you with your job right now?"* (Question 19a). Responses to this question were subsequently coded on a four-point scale, ranging from "very satisfied" to "very dissatisfied." This four-point scale was created with little difficulty during the coding process to help analyze interview responses. Participants voluntarily provided responses such as "very satisfied" or "satisfied." Given this type of response and the ensuing discussion which typically took place (because I usually asked them to briefly elaborate on their answer), I was then able to code answers accordingly.

Overall, twenty-nine of the thirty-five participants asked this question (83 percent) indicated that they were "very satisfied" or "satisfied," while six participants (17 percent) said they were "dissatisfied" or "very dissatisfied." Comparisons across faculties revealed a fairly equal representation for those participants who indicated they were either "satisfied" or "very satisfied." Of those individuals who said they were dissatisfied with their jobs (3 Science, 2 Arts, and 1 Business graduate), most indicated that they did not find their job challenging. As well, assessing their job qualifications, four of these six individuals (2 Arts, 1 Business and 1 Science graduate) also said that they were "overqualified" for their jobs.

Participants were also asked a second question: *"Is it a job you would choose again, if you had the opportunity?"* (Question 19b). This question was added after a few interviews had been completed to check for reliability of responses with the previous question on job satisfaction (Question 19a). For example, after having completed several interviews I noticed that, when asked the original question, almost all participants simply responded that they were either "satisfied" or "very satisfied" with their jobs. As I outlined in the last section, the research literature on job satisfaction finds that behavioural intention measures usually reveal different findings (i.e., usually more negative findings). With this in mind, this second question was added to the interview schedule. Since this question was added after a few interviews had already been completed, a smaller number of participants (23 in total) were actually asked this question. Results reveal that seventeen of the twenty-three individuals (74 percent) indicated that they would choose their job again if they had the opportunity, whereas only one said he/she would not choose it again (an Arts graduate). The other four were uncertain whether they would choose their job again (3 Science and 1 Education graduate).

Therefore, a large majority of participants seemed to respond positively when asked whether they would choose their job again. These findings reflect the positive findings from Question 19a, as presented above. As well, *perhaps* similar to other research which has examined behavioural intention measures, there was a slightly lower percentage of individuals who said they would choose their jobs again (74 percent), compared to those who said they were satisfied (83 percent). However, this percentage difference is not great, given that the numbers of individuals asked each question was not large (35 and 23 people respectively). For example, of those individuals who were asked both questions, only two rated their job satisfaction positively for the first question and then indicated they were "not sure" if they would choose their job again in response to the second question. This suggests that the behavioural intention measure in this case did not necessarily reveal different results. Nevertheless, what it did reveal is that a majority of graduates were satisfied with their jobs.

iii. Comparisons Between 1992 and 1997 Findings

Two questions on job satisfaction were asked in both 1992 and 1997. The first question asked in each time period (How satisfied are you with your job?) was virtually the same. Results indicate that a majority of graduates said that they were "satisfied" or "very satisfied" with their jobs in 1992 (61 percent) and in 1997 (83 percent). The higher percentage of individuals who said that they were satisfied in 1997 could mean that graduates acquire more satisfying jobs over time. One consistent finding is that a small minority of graduates indicated that they were "dissatisfied" in both years; that is, 13 percent in 1992 and 17 percent in 1997. Although Arts and Science graduates seemed to be more dissatisfied with their jobs in 1992, these differences were smaller five years later in 1997.

The second question on job satisfaction in both time periods asked individuals if they would choose the same job again. The question wording across the two time periods was slightly different, yet both questions reflected a very similar construct. More than seven-tenths of graduates in both 1992 (71 percent) and 1997 (74 percent) indicated that they would choose their job again.

These findings are pertinent to the research questions being asked in this study. They provide us with some over time evidence that graduates are finding jobs with which they are satisfied and that they would choose again, if they had the opportunity. At a basic level, this suggests that a university education has led to valuable and satisfying work for these individuals. For Arts and Science graduates, it appears that the acquisition of satisfying work has taken slightly longer. Nevertheless, a substantial majority indicated that they were satisfied with their jobs in 1997.

3. Job-Education Match/Mismatch

This section presents findings which relate to the match between education and job outcomes. This issue is also directly relevant to this study given concerns that universities may not be providing an education that fits labour market needs. In the 1989 and 1992 phases of the ESWS, and in the 1997 follow-up interviews, individuals were asked to assess the match between their education and jobs in terms of their qualifications, and also to assess the importance of this match for them personally. These findings are outlined below.

a) *Importance of Job-Education Match*

i. 1989/1992 Findings

As part of the 1989 and 1992 ESWS questionnaires, sample members were asked to respond to the following statement about the issue of education-job match: *"It is important that my job be related to my field of study or specialization"*[6] In 1989, approximately eight-tenths of all 123 sample members (79 percent) agreed with this statement, while only 13 percent of sample members disagreed (Table 4). Slightly fewer individuals (69 percent) agreed with this statement in 1992, although this still comprised a significant majority of sample members. Therefore, while respondents still felt strongly about having jobs closely matched to their education in both years, the strength of this sentiment had diminished somewhat by 1992.

Table 4
1989 and 1992 Responses to the question:
"It is important that my job be related to my field of study or specialization," by Faculty

		Percent			
		1989		1992	
Faculty	N	Disagree	Agree	Disagree	Agree
All Respondents	123	13	79	18	69
Business	20	0	90	25	60
Education	25	12	84	8	84
Science	25	10	83	23	67
Arts	25	36	56	28	56

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[6] Individuals were asked to respond on a five-point scale, from "strongly disagree" (1) to "strongly agree" (5). Scores of 1 and 2, and 4 and 5 are combined, while responses in the middle category (3) are omitted.

As shown in Table 4, a majority of graduates in all four faculties in both 1989 and 1992 agreed that it was important to have a job related to their field of study. Nevertheless, there were some differences by faculty. For example, while 80-90 percent of Business, Education and Science graduates agreed with this statement in 1989, just over half of Arts graduates (56 percent) agreed. One reason why Arts graduates may have been less inclined to agree with the statement is that they are not as motivated by specific occupational outcomes as graduates from the other three faculties. This idea would support the contention that what is learned through a liberal arts education is less oriented to specific job outcomes, and more oriented to general education and training.

Findings in Table 4 also reveal that, over time, there were differences within faculties. For example, compared with the 1989 results, 20-30 percent fewer Science and Business graduates in 1992 agreed that it was important for them to have a job which was related to their field of study. On the other hand, the same percentage of Arts and Education graduates agreed with this statement in both years, although fewer Arts graduates disagreed in 1992.

These results reveal that, over time, respondents were less inclined to say that having a job related to their university education was important to them. The reason for this may be that these graduates were better able to recognize that their degrees, and the skills they learned in their programs, were applicable to a broader range of jobs in the labour market than they had previously considered. Another way of stating this is that these individuals may have been better able to recognize the value of their education, as this relates to employment. In this sense, individuals may have been more willing to consider work in a wider range of occupations. For Science and Business graduates, these findings were more pronounced. That is, a greater proportion of Business and Science graduates said that having a job closely matched to their education was less important to them in 1992, compared to three years earlier in 1989 (i.e., when most would have graduated). On the other hand, Education graduates were more consistent in how they responded, which may be attributed to their strong desire to be in the teaching profession. As well, in both sampling periods, fewer Arts graduates were inclined to agree that having a job closely matched to their education was important to them. As I suggested earlier, one explanation for this is that Arts graduates may be less motivated by specific occupational outcomes than in obtaining a general education that is oriented to a wider range of possible jobs.

ii. 1997 Findings

In 1997, interview participants were also asked to assess the importance of obtaining a well-matched job. Specifically, they were asked: *"How important is it for you to have a job which is closely matched to your education?"* (Question 18c). Fifteen of thirty participants (50 percent) indicated that it was "not important" for them to be well-matched (8 Science, 3 Business, 3 Arts and 1 Education graduate). It is interesting to note that Science graduates were more likely to indicate that it was not important to have a job closely matched to their education. One third of these individuals (5 people) said that what mattered to them was simply having a job that they enjoyed. However, all five of these people were in jobs that were related to their field of study, which suggests that it was somewhat important to them.

The remaining fifteen participants (50 percent, including 4 Arts, 4 Science, 4 Education and 3 Business graduates) remarked that it was either "important" or "very important" for them to have a job which was well-matched. Four of these fifteen individuals remarked that they did not want to "waste their education" or that they believed that they needed to use the skills that they had learned. Proportionally, more Education graduates (4 of 6 individuals) indicated that having a closely matched job was important to them. This finding might be expected since all of these individuals had planned to be school teachers.

Together, these findings reveal that there was an even split between the number of 1997 interview participants who believed it was important to have a job which was closely matched and those who believed it was not important.

iii. Comparisons between 1989/1992 and 1997 Findings

Over time, more graduates were inclined to say that having a job closely matched to their education was *not* important to them. For example, about eight-tenths of graduates specified this in 1989, seven-tenths indicated this in 1992, and approximately half of those in 1997 also said that it was not important. That is, while there was a reasonably strong desire for individuals to have closely matched jobs at the time of graduation, this desire does not appear to be as strong seven or eight years later. Therefore, with the passage of time, individuals appeared to be more willing to accept jobs which differed from their education and training.

One explanation for this is that graduates may have developed new interests over time, and therefore might have considered job opportunities outside of their fields of study. For example, five of the fifteen interview participants who said that having a closely related job was not important to them remarked that, as long as they enjoyed their job, it did not matter what they were doing. A second explanation is that, in light of the economic recession in the early 1990s and changes in the labour market (e.g., government and corporate down-sizing), more individuals may have been willing to accept different types of job because they needed to work. Comments made by some participants throughout the interviews suggested that they believed that "times were tough" for new graduates entering the labour market. However, as I specified earlier, another possible explanation for the change over time is that graduates may have become more confident in their ability to pursue different types of opportunities in the labour market as a result of their educational credentials and the skills they acquired in their academic programs. For example, a number of the individuals who said that having a closely related job was not important indicated that they were confident with their abilities, and would consider looking for different types of jobs. As well, almost all of these individuals were happy with their choice of programs at university.

b) *Assessments of Job Qualifications*

i. 1992 Findings

One of the questions that sample members were asked in the 1992 ESWS questionnaire read: *"Considering your experience, education, and training, do you feel that you are overqualified for your job?"* Overall, 66 percent of sample members said they did not feel overqualified, while 34 percent said that they were overqualified. Table 5 presents these results for all respondents, as well as results by faculty.

Table 5
1992 Responses to the question:
"Considering your Experience, Education and, and Training, do you feel that you are Overqualified for your job?" by Faculty

		No		Yes	
Faculty	N	N	%	N	%
All Respondents	123	71	66	37	34
Education	23	19	83	4	17
Business	20	14	70	6	30
Science	28	17	61	11	39
Arts	17	6	35	11	65

As shown in Table 5, Arts graduates were much more likely (65 percent) to indicate that they were overqualified for their jobs in 1992, while Education graduates (17 percent) were least likely. The percentages for both Business and Science graduates were close to the average percentage of all sample members (34 percent). That more Arts graduates felt overqualified for their jobs seems consistent with the fact that Arts graduates also indicated that they were less satisfied a couple of years after graduating (as shown earlier in Table 2).

ii. 1997 Findings

The thirty-seven graduates interviewed in this study were also asked to assess how qualified they were for their current jobs. The question they were asked read: *"Would you say you are overqualified, underqualified, or well-matched for your current job (or most recent job)?"* (Question 18a). Since most of these individuals had graduated more than seven years earlier, I assumed that most individuals would have been working in their current job for at least a couple of years. Therefore, by asking this question in relationship to their current job it was assumed that this would be a fair indicator of their assessment of their qualification levels more generally. In fact, as stated earlier, individuals had been working in their current (or most recent) jobs for approximately three years on average, and only six had been working in their jobs for less than one year. Therefore, the original assumption that individuals had been working in their jobs for at least a couple of years was reasonably accurate.

Results reveal that twenty-two of thirty-four participants (65 percent) said that they were "well-matched" for their jobs (8 Science, 6 Business, 5 Arts, and 3 Education graduates). Therefore, at least half of the graduates from each of the four faculties said they were "well-matched." Almost all of these individuals (21 of 22) had also indicated that they were either "satisfied" or "very satisfied" with their jobs.

Seven more individuals (21 percent) indicated that they were "overqualified" for their jobs, with Arts graduates citing this most frequently (4 individuals), followed by Business graduates (2 individuals) and Science graduates (1 individual). Of these seven graduates, three indicated that they were not fully utilizing what they had learned at university, and another two individuals indicated that they could be performing at a higher level than what was expected of them in their jobs. As well, five of the seven graduates had also indicated that they were either "dissatisfied" or "very dissatisfied" with their jobs. Three of these five individuals were Arts graduates, one was a Science graduate and another a Business graduate.

Additionally, five graduates (15 percent) indicated that they were "underqualified" for their jobs (2 Science, 2 Education, and 1 Arts graduates). Only one of these participants (a Science graduate) indicated that they were "dissatisfied" with their job.

All twenty-two individuals who indicated that they were "well-matched" for their jobs were asked a supplemental question which read: *"Would you still be well-matched if you had not acquired your university education?"* Thirteen of these twenty-two participants (59 percent, including 5 Arts, 5 Science 2 Business and 1 Education graduate) indicated that they would likely still be well-matched without having completed their particular degrees. On the other hand, the remaining nine individuals (41 percent, including 5 Business, 3 Science and 1 Arts graduate) indicated that they would *not* be well-matched for their jobs if they had not completed their particular programs. Four of these nine individuals (2 Business, 1 Arts and 1 Science graduate) said that their particular degree was a pre-requisite for obtaining their jobs, while another individual (a Science graduate) said that a university degree of any type was a pre-requisite for their job.

Of these nine individuals who said they would not be well-matched without having completed their degree programs, three (2 Business, and 1 Science graduate) said that the specific substantive material that they had learned in their programs was important for them being well-matched. Three more participants mentioned that the specific problem-solving and thinking skills that they had learned in their programs were important for them being well-matched. In particular, one Business graduate who was working as a computer systems technician stated that his degree provided him with certain skills and abilities above and beyond the substantive material he learned in his program. Here is an excerpt from the interview conducted with this individual.

Jeff:
Would you say you're overqualified, underqualified or well-matched for your current job?
Bill:
For my current job? <yeah> Pretty good match <pretty good match?>. I'd say a good match yeah <hm-hmm>. Um
Jeff:
What if you didn't have your- university education?
Bill:
I'd be under-qualified <under-qualified?> Yeah- my d- uh- like I said I think the- the mental gymnastics that we went through here- helps me do what I'm doing today <hm-hmm>. I- I you know. I wouldn't uh- I know the degree got me the job- uh without a technical background- um one of the things uh- came up in the interview was- uh 'You've got a Commerce degree you know and' they said, 'Well how do you think that's gonna apply?' And I proceeded to tell them how I think it might apply <right> in the setting and they were all valid points.
Jeff:
Like some of the things you've been telling me?
Bill:
Well yeah- I mean like uh for instance problem-solving skill <Ok> all that- and it made sense to them. They thought it was a pretty good argument so and <yeah> they hired me <yeah> based on that argument… So…the argument that "Well you've never been in an office before- you've never done this before." It's starting to become less valid and I think it's actually my degree is- is u- it's adding value to my- to the fact that I have a degree. People are looking at the fact that- you know here's your work experience <hm-hmm>. And I think especially in this last position <right> that I've taken on. And in addition as a backstop- this degree which um- you know I can convincingly say that I've got some more than just <yeah> looking at Finance or Accounting .

As revealed by this quotation, this Business graduate believed that he had learned more than just substantive material in his degree. Specifically, he recognized that he had developed other skills, specifically "problem-solving skills" in his program. Besides this individual, there were at least two other participants (1 Business and 1 Arts graduate) who believed that, without the problem-solving skills they learned in their programs, they would likewise be "underqualified" for their jobs.

Considering these findings, it is notable that more Arts and Science graduates (5 Arts, 5 Science graduates, compared to 2 Business and 1 Education graduate) believed that they would still be well-matched without their education. On the other hand, more Business graduates believed that their degree program was important in this respect. It is also interesting to note that those individuals who said they would not be well-matched without their education (9 in total, including 5 Business, 3 Science and 1 Arts graduate) were all working in jobs which were more directly related to their education.

iii. Comparisons between 1992 and 1997 Findings

A difference between the questions in 1992 and 1997 is that the response categories varied. For example, there were two response categories offered in 1992 (yes, no), while there were three categories in 1997 (overqualified, underqualified, well-matched). While such differences might influence the types of responses provided, I believe that it is possible to offer some general comparisons of the findings since the questions addressed similar constructs (i.e., assessment of qualification levels).

A general comparison of the findings reveals that fewer individuals (21 percent) in 1997 said that they were "overqualified," than in 1992 (34 percent). These results might suggest that over time, individuals are finding jobs which better match their qualifications.

Arts graduates were more likely to say that they were overqualified in both 1992 and 1997. On the other hand, Education graduates were least likely to indicate that they were overqualified in 1992, while no Education graduates said this in 1997. This is to be expected, since most Education graduates were working in jobs directly related to their education and training (i.e., public school teachers) in both years. More Arts and Science graduates said that they would still be well-matched for their jobs if they had not completed their degree programs, while more Business graduates said they would not be well-matched if they had not completed their programs. This is perhaps not surprising since more Business graduates were working in jobs which were directly related to the substantive content of their programs.

Methodologically, a benefit of the questions asked in 1997 is that more information is learned about graduates' assessments of their job qualifications by virtue of the response categories utilized. For example, several individuals indicated that they were underqualified for their jobs. It is not possible to discern this information from the 1992 response categories. As well, the supplementary question asked of participants who said they were well-matched was also useful since it provided the opportunity for graduates to indicate whether their programs were decisive in the education-job match equation. Generally, the semi-structured interview strategy was useful since it provided the opportunity to probe some of the reasons why individuals believed they were well-matched, and how their university education may have contributed to this. For example, three graduates mentioned that the specific problem-solving skills that they had learned in their programs were instrumental for them in terms of being well-matched for their jobs.

4. Participants' Perceptions about their Future Employment

Besides questions pertaining to employment outcomes, job satisfaction, and education-job match/mismatch, 1997 interview participants were also asked: *"How do you feel about your own future in terms of employment?"* Perceptions about future employment prospects often shape current plans. As well, given widespread anxiety regarding company and government down-sizing, this information could shed additional light on how graduates perceived their marketability in the workforce, and whether they believed that their university education and what they had learned in their programs would be sufficient.

Overall, thirty-two participants were asked this question. Two-thirds (66 percent, or 21 people) indicated that they felt very good or optimistic, and another nine graduates (28 percent) said they felt good or "fine" about employment in the future. Only one individual, an Arts graduate (with an Education after-degree), said that he was "guarded" about future employment. This individual went on to explain difficulties he had been having in acquiring a full-time job over the past several years.

Altogether, among the thirty people who were optimistic about the future, nineteen (63 percent, including 8 Science, 4 Arts, 4 Education and 3 Business graduates) indicated that they were optimistic because of the specific job they had, or the specific field in which they worked. As well, fourteen of the thirty graduates (47 percent, including 5 Business, 4 Arts, 3 Science and 2 Education graduates) said that they were optimistic because they had confidence about their abilities, and that they could find work elsewhere[7]. Here is an example that reflects this from a Science graduate who was working in the computer industry.

Jeff:
Um how do you feel about your own future in terms of employment?
Tim:
Oh very secure <very secure?> Yeah <yeah>.
Jeff:
Just given the field or? The the, your organization where you are working now?
Tim:
Yeah both <both>. The field, like if I got laid off, the first thing I'd do is probably sleep in for awhile, go to Europe for a couple of months, come back and get a job <hm-hmm>. I mean there's nothing that I couldn't do <Ok>. You know I'm almost guaranteed of getting a job with my experience in my field.

While Tim was confident about his future employability, at least thirteen others were similarly confident. It is interesting to note here that a number of Business, Arts and Science graduates were confident in their ability to find work elsewhere. Although it is not completely apparent from the comments they provided, these findings might suggest that these individuals recognized the broader value of their university education, beyond the jobs that they had obtained.

Thus, overall, a majority of graduates (66 percent) felt positive about their future in terms of employment. As well, there were not necessarily large differences by faculty. Despite concerns regarding uncertainty in the labour market in the 1990s, most of these graduates were at least reasonably confident and optimistic about their future employment. These findings are nearly identical to results of a 1996 Angus Reid survey which found that 66 percent of employed Canadians were not fearful of losing their jobs (Edmonton Journal, 1997). However, the findings are also somewhat at odds with reports presented in the media throughout the 1990s which portray the "Generation X" cohort as one which has a negative and cynical perspective about their future job opportunities.

One of the reasons why these graduates may have been more optimistic is that, by 1997, they had been in the workforce for a number of years and were increasingly confident in their abilities and knowledge. This particular reason was expressed by about half of the interview participants. What this suggests is that, over time, university graduates may more fully recognize the value of the human capital and specifically the skills and abilities they have acquired through their education.

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[7] These responses are not mutually exclusive. That is, some individuals indicated that they were optimistic because of their specific job and also because they had confidence in themselves.

Summary

Overall, these findings on job satisfaction, job-education match, and perceptions about future employment provide a more detailed picture of how graduates in this study have fared in the labour market since graduating. A majority of individuals in both 1992 and 1997 said they were satisfied with their jobs. These findings are comparable to other research which has examined university graduate outcomes. What is unique about the findings in this study is that more graduates said they would choose their job again if they had the opportunity, compared to other Canadian research which has utilized this measure for assessing satisfaction among Canadian workers. This suggests that, while a minority of graduates may be unsatisfied with some aspects of their work, they still believe that they have acquired "good" jobs and thus would choose them again. As outlined in the first half of this chapter, most interview participants had obtained "good" jobs by 1997. For example, a majority of individuals had acquired jobs which they believe were "skilled," were "complex," and that provided them with a fair amount of job autonomy. Arts graduates in particular, but also Science graduates to some extent, were less likely to indicate that they were satisfied with their jobs in 1992 (i.e., approximately two to three years after graduating). However, by 1997 they were just as likely as Education and Business graduates to say they were satisfied with their jobs. One explanation for this change over time is that it might take longer for Arts and Science graduates to acquire satisfying jobs. In addition, Education and Business graduates may have been more satisfied with their jobs in 1992 because they had acquired jobs which were more directly related to their fields of study.

Looking at the issue of job-education match/mismatch, we see that, over time, fewer graduates indicated that having a closely related job was important to them. One possible explanation is that graduates come to recognize the broader value of their university education, that is, beyond jobs which are directly related to the substantive content of their fields of study. As a result, they may be less likely to contend that having a closely related job is important. This in itself may suggest that a university education is of lasting and possibly of increasing value for individuals.

When asked about job qualifications, fewer graduates indicated that they were overqualified for their jobs in 1997 than in 1992. In 1997, two-thirds of participants said they were "well-matched" for their jobs, including more than half of graduates from all four faculties. This suggests that, with the passage of time and with accumulated work experience, individuals may be acquiring jobs which they believe match their qualifications. Arts graduates were somewhat more likely to say that they were overqualified for their jobs in both time periods. However, compared to other graduates, just as many Arts graduates indicated they were satisfied with their jobs in 1997. Therefore, while Arts graduates may have become increasingly more satisfied with their jobs over time, they were still more inclined to say they were overqualified. This might be partly explained by the types of jobs these individuals had acquired. As was shown in Table 1, Arts graduates were more likely to have acquired a broader range of jobs by 1997, compared to graduates from the other three faculties. By virtue of the range of jobs they had acquired, some of these Arts graduates may have believed that they were "overqualified" in terms of credentials, even though they found the work satisfying. This raises an interesting point regarding the potential relationship between perceptions of job qualifications and assessments of job satisfaction.

Thus, when simply looking at employment outcomes, a university education appears to have served these graduates well. For example, a majority of graduates in this study found work which was satisfying and for which they believed they were qualified. As well, graduates from all four faculties rated the jobs they had acquired quite positively on a number of dimensions (e.g., job complexity, job autonomy, assessments of their jobs as "skilled"). Furthermore, only about one-third of graduates had difficulties finding work after graduating. These findings do not support many of the stereotypes presented in the media which portray university graduates as working in "bad" jobs, as highly overqualified for their jobs, and as acquiring jobs with which they are not satisfied. As well, unlike some of the images of the "Generation X" cohort which portray graduates as cynical and negative about their future employment opportunities, a significant majority of the graduates in this study were optimistic about their future in this respect.

Thus, before suggesting that a university education may be of diminishing value today, critics of the university system need to more fully examine the employment outcomes of graduates. Nevertheless, despite the finding that a university education continues to be of value in the labour market, one question that remains is how graduates assess the "human capital" they acquired at university and which they took with them into the labour market. In Chapter 6, I will examine the nature of this human capital more explicitly by looking at the employment skills that graduates learned in their programs and at their perceptions of which skills were valuable for them in the workplace. However, before examining this issue, the following chapter presents findings on graduates' broader assessments of their university education.

Chapter 5
Findings

Subjective Assessments of University Education

The previous chapter presented information on the labour market outcomes of a group of University of Alberta graduates, most of whom completed their programs in 1989. It is quite clear that a university education was of considerable value for these graduates. However, objective employment outcomes tell only part of the story. That is, we do not learn how graduates themselves evaluate their university education and what they learned in their programs which has been of value to them since they graduated.

This chapter addresses some of these issues, presenting findings on how graduates subjectively assess their university education several years after graduating. The findings inform us about the value of a university education, particularly from the subjective viewpoint of graduates. As mentioned in Chapter 2, a more detailed follow-up study of graduates' assessments of their university education is lacking in the research literature. While some studies do exist, few, if any, have conducted follow-up interviews with graduates.

The findings on graduates' employment outcomes presented in the last chapter help to provide a context in which subjective assessments of university education are made. As well, examining these educational assessments at this point in the study provides a context for Chapter 6 which examines in greater detail graduates' assessments of the skills they acquired at university.

The findings presented in this chapter address a number of the research questions which were outlined at the end of Chapter 2. To recap, these questions include:

1) How do 1989 graduates evaluate their university education several years after having graduated? What are some specific features of their programs that they recognize as strengths and weaknesses?

2) Have graduates' assessments of their university education changed over time?

3) Do graduates' assessments of their university education vary by program of study?

This chapter presents findings both from the 1997 interview data and the 1985-1992 ESWS survey panel data. As well, comparisons between findings from these two data sources will be made where relevant. The specific survey and interview questions which address the broader key research questions outlined above include questions about: (1) graduates' reasons for choosing their program of studies; (2) graduates' assessments of their educational experiences at university; (3) general assessments of university education; and (4) future plans for education.

1. Reasons for Choosing Program of Studies

Prior to outlining graduates' assessments of their university education, it would be useful to examine why individuals said they chose their particular program of studies at university. Knowing something about individuals' original motivations for attending university may provide insight into their post-graduation assessments of their educational experience. For example, it would be interesting to examine whether individuals chose their programs of study because of future employment or career reasons, or if they did so for other reasons.

i. 1985-1992 Findings

In the first ESWS questionnaire that sample members completed as grade 12 students in 1985, they were asked a number of different questions surrounding work and education. One question asked: *"Why have you decided to continue your education?"* Sixty percent of the 123 respondents in 1985 indicated that they were planning to continue their education for reasons pertaining to job prospects and career objectives. More specifically, among the more popular responses, approximately one quarter of sample members (26 percent) indicated that continuing their education (and specifically a university education) would lead to "better," "more satisfying," or "higher paying jobs." As well, sixteen percent of respondents mentioned that they were continuing on with their education because they aspired to some specific type of job or career. Besides answers pertaining to jobs and careers, approximately 18 percent of sample members remarked that they were planning to continue on into university because they wanted to "improve on or gain more knowledge" (10 percent), to "get more out of life" (6 percent), or to "meet personal goals" (2 percent). The theme suggested by this last set of responses is that higher education is an avenue for self-improvement. Five percent of individuals also indicated that continuing on with their education would provide them "with the chance to decide what they wanted to do in the future," while 3 percent said that they simply "enjoyed school." A small percentage of students also mentioned some additional factors such as higher education providing the chance to "keep up," offering "more independence", a better "social life," because there were "no jobs available," or that they simply "wanted a degree."

One year later, in the spring of 1986, sample members were asked to complete a second questionnaire. One of the questions asked: *"Why did you choose this particular program?"* (i.e., their particular university degree program). Thirty-seven percent of respondents indicated that they chose their program because of an "interest in the subject area" (33 percent) or because of "enjoyment of the subject area" (4 percent). Twenty-nine percent said that their choice of program pertained to jobs and careers and mentioned such things as a specific "career goal" (13 percent) or a "career interest" (2 percent), that they wanted to "work with children or people" (10 percent), that it was because of "job prospects" (3 percent), or that their program was a "pre-profession requirement" (1 percent). Another ten percent of respondents said they chose their programs for reasons of "upgrading" their educational status at the time[1], while 6 percent said that they were simply taking the "courses they wanted or needed."

A few individuals (13 percent, or 16 of 123 sample members) did offer a second response to this question. Specifically, six individuals mentioned that they chose their program because of career reasons, while four individuals said that they chose their program because of interest in, or enjoyment of, the subject area.

Three years later, in 1989, sample members were again asked the same question, that is: *"Why did you choose this particular program?"* At that time, 40 percent of sample members mentioned that they chose their program because of an "interest in" (35 percent) or "enjoyment" (5 percent) of the subject area. Another 30 percent indicated that their choice of program was for career or job reasons, including a specific "career goal" that they had in mind (14 percent) or because of "career interests" (2 percent), that it was a "pre-profession requirement" (8 percent), because of "job prospects" (3 percent), or because of a desire to "work with children" (2 percent) or "work with people" (1 percent).

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[1] Some individuals that are included as sample members (i.e., those who completed a university degree by 1992) were not in university in 1986, and may have been completing another year of high school when they completed the questionnaire in 1986.

Once again, some sample members (23 percent, or 28 of 123 individuals) did offer a 2nd response to this question in 1989. Specifically, sixteen individuals mentioned that they chose their programs because of career reasons, four individuals indicated it was because of interest in or enjoyment of the subject area, while three individuals said it was because they needed to finish their degree.

Therefore, prior to entering university in 1985 a majority of sample members (60 percent) indicated that they were planning to continue on into university for various reasons pertaining to career objectives or job prospects. Looking at first responses only reveals that most respondents in 1986 and in 1989 indicated that they chose their particular degree programs because of an interest in or enjoyment of the subject area (37 percent and 40 percent), or because of future career objectives and job prospects (29 percent or 30 percent). Thus, the findings from 1986 and 1989 on choice of program remained relatively consistent. When taking into consideration both 1st and 2nd responses, the findings reveal that, in 1989, slightly more individuals noted that they chose their degree programs because of a specific career objective than they did in 1986. This could have been because, by 1989, most individuals had completed their degrees and were focused on finding employment.

ii. 1997 Findings

In 1997, interview participants were asked a question similar to the one asked in the 1986 and 1989 ESWS questionnaires. Specifically, the 1997 question read: *"First, thinking back a few years now, what made you choose your particular program of studies?"* (Question 1a). Most interview participants offered one reason, although a few offered a 2nd response, and one person mentioned a 3rd reason why he/she chose his/her particular program. Nineteen participants (54 percent) said that general interest in the subject area was the main reason for choosing their program, with four of these nineteen people adding that they were not sure what else to study. The responses of these four graduates suggest that, while general interest in the subject area was a factor, they may simply have been motivated to get a university degree. When combining participants' 2nd and 3rd responses, twenty-one of the thirty-five participants (60 percent, including 10 Science, 7 Arts, and 4 Business graduates) made some reference to entering their particular degree programs because of a general interest in their field of study. Here is an example of this type of response from an interview with a Science graduate.

Jeff:
Um- what made you choose going into Science versus [another program]?
Krista:
I guess- I guess um ever since I was a kid- you know when uh we did any sort of uh science classes related- I you know- in high school or whatever- it's always been an interest of mine <Ok>- the biology field. I mean it's never ever crossed my mind to enter something like uh- you know the commerce area. Cause it's just never peaked my interest. So it almost seemed like it's just- you know a natural interest.

Besides general interest in the subject area, eleven individuals (31 percent) said that career reasons were the primary motivation for entering their programs (5 Business, 5 Science, 4 Education, and 2 Arts graduates). This includes individuals who aspired to a specific job afterwards, and those who said that their program offered better career opportunities more generally. When combining these with 2nd and 3rd responses, sixteen of the thirty-five individuals (46 percent) made some reference to career reasons. Besides this, a few individuals specified that they chose their programs mainly because of an aptitude for the subject area (4 individuals), or because it was expected of them by parents or friends (4 individuals).

On the whole, findings reveal that most interview participants had either entered their degree programs because of a general interest in the field or because of career objectives. Arts graduates appeared to be somewhat less motivated to enter their program of studies because of career reasons. Science and Business graduates were more evenly split about whether they had entered their programs because of general interest in the subject area or because of career reasons. On the other hand, most of the Education graduates (4 of 6 individuals) said that career reasons played the largest factor in their choice. For example, three of the Education graduates remarked that they had always wanted to be a teacher.

iii. Comparisons Between 1985-1992 and 1997 Findings

Overall, the findings reveal that most respondents from the 1985, 1986 and 1989 ESWS surveys and from the 1997 interviews indicated that their choice of programs reflected either an interest in the subject matter or career objectives. Comparing these findings over time reveals that a slightly higher percentage of 1997 interview participants (54 percent) specified that their choice of program reflected a general interest in the subject area, compared to responses provided in the 1986 (37 percent) and 1989 (40 percent) ESWS surveys. On the other hand, approximately the same percentage of participants in 1997 (31 percent) indicated that their choice of program reflected career objectives, compared to graduates in both 1986 (29 percent) and in 1989 (30 percent).

Thus, these findings suggest that, over time, individuals seem to place slighter greater emphasis on an interest in the subject area, rather than career reasons, when explaining their choice of program of study. It is interesting that the types of responses that individuals provided were quite consistent over time. That is, most people said they entered university for career reasons or because of an interest in the subject area.

Generally, these findings suggest that graduates were not only motivated to enter their programs because of future career objectives, but because they had a genuine interest in their field of study. These findings do not fully support claims that university education is generally perceived by students to be a mechanism for obtaining employment. While this may be an important component in students' motivations for attending university, an interest in learning about the subject area appears to be an equally salient motivation. Researchers who study university graduates should keep this in mind, and should also take note of when outcome studies are conducted, that is, at the time of graduation or several years later. For example, if graduates are surveyed in their final year of studies (or at the time of graduation), they may be more inclined to say that they entered their program for career reasons. If follow-up studies are conducted several years later, more individuals may retrospectively report that they had entered their programs because of a general interest in the subject matter. Looking back on their programs several years later, individuals may be more likely to focus on the substantive content of their fields of study rather than on the potential employment outcomes, since they are now less concerned about finding employment.

2. Graduates' Assessments of their Educational Experiences

a) *Assessments of Educational Choices*

This section presents findings on how graduates evaluated the choices they made regarding their university education in the 1989 and 1992 phases of the ESWS, as well as in the 1997 interviews. This analysis specifically addresses one of the central research questions in this study, namely, *"how do graduates evaluate their university education several years after having graduated?"* Given that the key objective of this study is to examine the value of a university education, the findings from this question should help to shed light on this issue.

The 1989 findings are particularly useful since graduates completed phase 4 of the ESWS in June of 1989, when most individuals would have just completed their programs. As well, examining this same issue with 1992 and 1997 findings is useful, since these particular results reflect assessments made once individuals had been in the workforce for a number of years.

i. 1989/1992 Findings

As part of the 1989 ESWS questionnaire, sample members were asked, *"If you could choose again, would you make the same education choices?"* A large majority of the sample (75 percent) said "yes," they would make the same educational choices again. Among the 25 percent of students that said "no," some of the most common responses were "would choose another university program" (9 individuals), that one's education "lacked career opportunities" (5 individuals), that there was a "lack of useful skills learned" (4 individuals), or that the individual would complete their "education in less time" (3 individuals). A breakdown of these results by the four faculties examined in this study (Arts, Business, Science and Education) is illustrated in Table 6.

As shown, in 1989 a majority of graduates in all four faculties indicated that they would make the same educational choices again. However, a greater percentage of Business graduates answered in the affirmative than graduates from the other three faculties.

Table 6
1989 and 1992 Responses to the question:
"Would you Make the Same Education Choices Again?" by Faculty

		1989				**1992**			
		Yes		No		Yes		No	
Faculty	N	N	%	N	%	N	%	N	%
All Respondents	123	92	75	31	25	88	72	34	28
Business	20	18	90	2	10	14	74	5	26
Education	25	19	76	6	24	20	80	5	20
Arts	26	20	77	6	23	15	58	11	42
Science	30	18	60	12	40	20	67	10	33

In 1992, sample members were asked the same question. At that time, 72 percent of respondents said that they would make the same educational choices again, while 28 percent said that they would not. Among the 28 percent of respondents (33 individuals) who said they would not make the same choices, seven individuals said they would have "chose another university program," six said that their programs "lacked useful skills," five respondents said their programs "lacked career opportunities," and four individuals said their "education was too broad." An interesting finding is that, among the various reasons why individuals said they would not make the same educational choices, only one respondent indicated that he/she should have gone to another type of post-secondary institution (i.e., not university). Thus, despite the reservations that 28 percent of respondents had about their educational choices, there is little indication that respondents wished they would not have entered university in the first place.

Comparing these 1992 results across faculties reveals that, as in 1989, the majority of all respondents in each faculty indicated that they would make the same educational choices again. However, slightly more Arts (42 percent) and Science (33 percent) students than Education (20 percent) and Business (26 percent) students indicated that they would *not* make the same choices. Among the more notable reasons provided by these respondents, five Arts graduates in 1992 indicated that they would have "chosen another university program," while no Arts graduates indicated this in 1989. As well, in 1992 three Arts graduates indicated that there was a "lack of useful skills learned," while two Arts graduates indicated this in 1989. Among Science graduates, three individuals in 1992 indicated that their education "lacked career opportunities" while four graduates from this same faculty indicated this in 1989.

Thus, over time, there was only a slight decrease in the number of people who were satisfied with the educational choices they made (from 75 percent in 1989, to 72 percent in 1992). This is interesting since many of these sample members had completed their programs in 1989 and would have been working for two or three years by 1992. Thus, the more difficult economic climate that some individuals faced in the labour market in the early 1990s (i.e., due to the economic recession and labour market re-structuring) does not seem to have jaded their perceptions of their educational choices. Cross-tabular analysis of 1989 and 1992 findings reveals that about 80 percent of all 123 sample members (or 73 people) who said that they would make the same education choices in 1989 also indicated this in 1992.

ii. 1997 Findings

As part of the 1997 interviews, participants were asked several similar questions about how they assessed their choices regarding university education: (1) *"Have you ever had any regrets about the educational choices you made at university, in terms of your choice of program, or courses?* (Question 4); and (2) *"Was it worth it?" (i.e., obtaining your undergraduate degree)* (Question 9). The latter question was added after the first several interviews as another way of determining how sample members assessed their undergraduate programs more generally.

With respect to the first question, the majority of interview participants (70 percent, or 26 of 37) said that they had not had any regrets about their choice of program since they graduated. The remaining eleven participants (30 percent) said that they did have some regrets. The following quotations exemplify the general positive sentiment that was expressed by participants, the first from a Business graduate and the second from an Education (specifically Physical Education) graduate.

Jeff:
Um have you ever had any regrets about your educational
Heather:
No <choice. No> No not at all <not at all>. No very favourable experience
Jeff:
Glad you chose your <very much so> faculty and your-your <yeah> major and?

Heather:
Yeah no regrets <Ok>.
Jeff:
Um is this related to some of your work experiences since- you can see the value of what you learned?
Heather:
I can see the value yeah. And uh, and it's just, I think a continual learning process once you're out <Ok>. Um but yeah no regrets. I mean looking back at university, it's a mix of of education and interaction with peers and uh <Ok> you know it was just a very positive experience I guess- it's a fun place <yeah yeah> [she laughs]- the years that you know you you look back on and you know you'll never really have the same thing again.

Jeff:
Ok looking back, and we talked about strengths and weaknesses before with your program, but uh um have you ever had any regrets about the educational choices you made? Do you wish you might have chosen another program or maybe just even emphasized in more courses in a certain area?
Cloe:
No <no> No.
Jeff:
You're glad you took what you did?
Cloe:
Yeah I um, there's not a lot of people who are actually really proud of their Phys-Ed degree <yeah>. But I I think partly is like I said, I had a very well-rounded education <yeah>, so I loved it, I loved every minute of Phys-Ed <yeah>. I mean you hate studying for exams, but every program you're in you're gonna hate it but, I I enjoyed the professors, I enjoyed the students, I have made all my great friends are from that <right> route in or area and, and I was involved in the <right> extra-curricular activities which made it better. So I don't regret um- no

Many of the twenty-six individuals who did not have any regrets were quick to respond to this question with a simple "no." All were generally content with the educational choices they had made. The two individuals quoted above volunteered slightly more information on why they did not have regrets. In their answers, both cite various aspects of their educational experience that were positive, such as interaction with instructors and peers, and which figure into their assessment of the choices they made.

While positive responses were more common, eleven individuals mentioned that they did have some regrets about their educational choices. Almost all of these people (10 of 11) thought that perhaps they should have entered another program at university, while only one individual thought that going to a technical institute might have been a better decision in hindsight. Of these eleven individuals, five were from the Faculty of Science, four from the Faculty of Arts, and two were from the Faculty of Business.

Labour market experiences since graduating played a part in shaping negative assessments of university education choices. Here is an example from an interview with a graduate who had completed an Arts undergraduate degree and then an Education after-degree. This individual is now a substitute school teacher living in British Columbia.

Jeff:
Now you mentioned you had some regrets about your going into university. Would you, did you have regrets about being in Arts versus another program? Or <um> do you wish you'd not, hadn't chose Arts?
Rob:
Well at that time it was probably the only thing open to me that I was vaguely interested in <hm-hmm>.
Jeff:
So have you- have you had regrets about your educational choices?
Rob:
Um yeah oh yeah <yeah>. I should have- I probably now I should have went into um very specific trade type orientated- like being able to know everything about computers or being a welder or been some-something totally s-specific.
Jeff:
Ok- instead of more general right?
Rob:
Instead of more general- that's right. Learn a trade, something you can always take with you.
Jeff:
How about- how about the education program, have you had regrets about that?
Rob:
Um- there are times, well yes and no- it's a- it's a mixed feeling on that one. Um I do have a trade but the thing is that throughout the entire university experience there in education, they kept on telling you're gonna have a job <right>- it was a big lie really <hm-hmm>. You're gonna have a job in five years there gonna- like that was five years, like six years ago they told me that in five years there's gonna be a lot of jobs in Alberta. Everyone's retiring <right>- it just never materialized <yeah>. Um and with all the cuts basically that's why I had to leave Alberta, and try here- and here it's the same story. There's gonna be a lot of jobs- the problem is it's uh governments and diminishing revenues <hm-hmm> and you have a rising population and you can't- you can't hire people so.

As shown in this passage, Rob had some reservations about his university education, but mainly because of his inability to find permanent employment since he graduated several years earlier. Limited opportunities in the Alberta and British Columbia labour market since the early 1990s have created problems for him in finding full-time work as a teacher. What is similar between this individual and at least six other interview participants is that, because of dissatisfaction with their employment experiences, they have had some regrets about their educational choices. On the other hand, what is different about Rob is that he was the only participant in the entire sample that suggested that perhaps he should have attended another type of post-secondary institution in the first place.

Four of the ten interview participants who said that they should have gone into another university program (3 Arts and 1 Science student) indicated that they should have perhaps entered a Business program. All of these people viewed a Business degree as being more marketable. As well, there seems to have been a genuine interest in business for some of these people, which may have developed in the intervening years because of experiences these people may have had in the labour market. Thus, at least four participants seemed to regret some of their educational choices because they had developed interests in other fields of study. Another individual (a Science graduate) also noted that differing interests had led her to have regrets, but for slightly different reasons.

Jeff:
Have you had any regrets about your Science program?
Mary:
Oh yeah.
Jeff:
You've had regrets about- both so about Science
Mary:
Yeah.
Jeff:
And would that- why would you have some regrets about Science? Mainly because of the career, job aspect?
Mary:
Um -I yeah that and I guess I in-in high school I was um- I guess I was going more for the practical and less for what I kind of deep-down felt I would like <yeah>. I-I you know and hindsight is 20/20- I I should have gone in- you know into an Arts [program]…history or or English <history or English? Ok>. Yeah and I'd probably have gone further.

This Science graduate indicates that in hindsight she should have gone into an Arts program after all because this is where her interests really lay. It is interesting to note that this individual had completed two undergraduate degrees; a Science degree and then a Pharmacy degree. She had also managed to find reasonably steady work as a pharmacist since graduating. Despite her success working as a pharmacist, she was unhappy with her career and thus appeared to be second-guessing her educational choices.

As outlined at the beginning of this section, some participants were also asked the question, "*Was it worth it?*" (Question 9), referring to their decision to obtain their undergraduate degree. Seventeen of the eighteen people (94 percent) who were asked this question said "yes," that looking back, it was worth it for them to obtain their degree. In the large majority of cases, participants did not hesitate to provide an answer to this question and, as noted, it was almost always positive. Here is a quote from a Science graduate that reflects the general tone of these remarks.

Jeff:
So overall if I was to ask you "was it worth it," - was it worth spending, going back and-
Peter:
Yeah definitely <completing it?> Oh yeah <yeah> definitely yeah <Ok>. I'd say for sure.
Jeff:
So it was worth it in terms of what you learned or?
Peter:
Um everything- I guess what what I learned and um um, like it was a lot of time spent I guess but it was <hm-hmm>- and then you kind of fall behind some people in the career, cause a lot of people don't have degrees but <hm-hmm> I think you probably make up for it in the long run I think so, with the advantage of having a degree

Peter's comments are similar to others made throughout the interviews. It is typical in that, at a broader level, he felt positive about his university education and believed that his decision to attend university was a good one.

The fact that almost everyone said "yes" when asked this question raises a potential question about validity. For example, it might be questioned whether participants were genuinely conveying their attitudes about their university education, or whether they were re-affirming the decisions they had made with respect to having attended university and chosen their particular program of studies. While justifying an earlier decision may have played a part in participants' responses, the findings generally appear to reflect a positive assessment of university education. For example, twelve of the seventeen people (71 percent) who said that it was worth it also indicated that they did not have any regrets about their educational choices (i.e., in response to Question 4). Five people who said it was worth going to university also said that they did have some regrets about their choice of program, but not with respect to having attended university. Therefore, it seems that individuals did believe that it was worth it for them to have obtained an undergraduate degree at university.

Thus, in general, when participants were asked to assess their post-secondary choices, the majority of individuals provided positive responses about having attended university and completing their particular degree programs. Even so, some participants did have some specific criticisms about university education, and some suggestions to offer. Later in this chapter, some of these specific criticisms will be outlined in more detail. And while the majority of individuals assessed their decision to attend university positively, there were a few who were less enthusiastic. Among these individuals, most seemed to have regrets in light of their subsequent labour market experiences since graduating. For example, both Arts and Science graduates had more regrets with respect to their choice of university programs, which is in keeping with some of their evaluations of their employment experiences. As noted in Chapter 4, more Science graduates had difficulty initially finding work, while more Arts graduates believed that they were overqualified for their jobs in both 1992 and 1997. These experiences likely had an impact upon the types of evaluations they made about their programs.

iii. Comparisons Between 1989/1992 and 1997 Findings

Although responses to the ESWS questionnaires differed slightly from the 1997 interviews in terms of graduates' assessments of their educational choices, some general comparisons can still be made. The finding that a majority of 1997 interview participants specified that they were content with their educational choices (70 percent, or 26 of 37 individuals) compares favourably with findings to the question asked of them in 1989 (75 percent of all 123 respondents would make same choices) and in 1992 (72 percent of all 123 respondents would make same choices).

In 1989, seven percent of sample members (9 individuals, including 3 Science, 1 Business, 1 Arts, and 1 Education graduate) indicated that they should have chosen a different university program, while in 1992, 6 percent (7 individuals, including 5 Arts, 1 Science and 1 Education graduate) said this. In 1997, a greater percentage of interview participants (27 percent) indicated that they should have chosen another university program (10 people, including 5 Science, 3 Arts and 2 Business graduates). A notable finding is that in all three time periods, either Science or Arts graduates were more likely to indicate that they should have chosen a different university program.

As suggested, one plausible explanation for the higher percentage of graduates in 1997 who said they should have chosen another program is difficulties they had in the labour market since graduating. For example, five of the eleven participants in 1997 who said that they should have chosen another university program also indicated that they had difficulty finding work after they graduated. Therefore, some of these people may have attributed this difficulty to their university program choice.

Another possible explanation is that individuals had more time to reflect on and evaluate their educational choices, or to recognize that they had interests in another area of study. From a methodological point of view, another possibility is that the interview strategy perhaps provides more opportunity than a self-administered questionnaire for individuals to convey any frustrations they may have had about their educational experiences. In this sense, individuals may be more inclined to indicate that they did have regrets.

Nevertheless, the dominant finding is that most individuals in all three time periods indicated that they did not have regrets about the educational choices that they had made. At face value, this provides some support for the proposition that graduates do value their university education.

b) *Specific Program Evaluations*

In addition to graduates' general evaluations of their educational choices, 1997 interview participants were also asked to assess their specific programs in more depth. For example, participants were asked, "*Briefly, looking back now, what are your general impressions of your program, in terms of its strengths and weaknesses?*" (Question 1b). Thus, participants could volunteer which positive and negative aspects of their programs were most important for them. As well, throughout the course of the interviews, participants would often discuss additional strengths and weaknesses of their programs, outside of the context of this question. All such comments offered throughout the interviews will be presented here, along with the responses to Question 1b.

Often when respondents were asked Question 1b, they would volunteer additional general assessments about their educational experience. Looking at these general comments first, fourteen individuals (6 Science, 4 Arts, 3 Education, and 1 Business graduate) indicated that they felt that their program or university education was either "good," or "very good"[2]. Only two individuals, both Arts graduates said that their programs were "weak."

Besides these very general assessments, many comments made throughout the interviews were also favourable of university education in general. For example, at least six graduates provided very favourable comments about their university education outside of the context of Question 1b. Here are a couple of examples, the first from a Science graduate, and the second from an Education graduate.

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[2] Throughout this analysis, the classification of responses into separate categories (in this case, "good", "very good", "neutral", "bad" or "very bad") are judgements made by the author. Categorizing responses in this way helped to organize similar types of responses.

Krista:
But um- you know I-I believe that I went to a very good school <Ok>. The program that was offered was was great and the courses that were offered- you know to work up to my degree- uh I thought were pretty good <Ok> yeah <Ok>
Jeff:
So you the the program had respect and you feel like uh- your expectations were fulfilled basically
Krista:
Absolutely <Ok> Hm-hmm

Jeff:
But it was a good program when you were - ?
Trisha:
Fantastic <hm-hmm> absolutely fantastic. Professors were wonderful, um as a close-knit group you followed thirty (??) for 3 years <hm-hmm>. Cause your first year's general <right> and then you went <Ok>
Jeff:
So it was a good experience ?
Trisha:
Fantastic

As shown, both of these individuals looked back on their programs quite positively. Overall, in keeping with the generally positive responses to the questions outlined in the last section (i.e., *"any regrets about choice of program?"* and *"was it worth it?"*), most participants looked back on their programs more positively than they did negatively.

However, a look at more specific comments made about programs reveals some variation in participants' assessments. In terms of specific program strengths, seven participants (3 Arts, 2 Education, 1 Business, and 1 Science graduate) identified the specific courses they took as being "good." Opposed to this, six graduates (2 Business, 2 Science, 1 Arts, and 1 Education graduate) mentioned negative aspects related to their courses. Here is an example from a Business graduate.

Gary:
I took some courses in the Business program on o-organizational- the theory of-of organizational design <hm-hmm>. Well how-how organizations should be set up <yeah>. And I don't use them because- simply because they were outdated ideas at the time we took them <Ok>. And they really

weren't …And-and they were very theoretical- the-they weren't- they they didn't uh- deal with a lot of the- the problems that you have to deal with in the real world <right> Ok?
Jeff:
And I'm just thinking- just in terms of positions. If you were in a higher position- someday <hm-hmm>- you'd have a sense of that- the organization from a different kind of point of view. That you might be thinking more about that- if you were (maybe different level)(yeah you might uh) types that.
Gary:
But the the the the- The things that we learned in those university courses wouldn't come into play. It would be- the things that come into play are would be the things that I've learned [in the workplace].
Jeff:
So too theoretical or?
Gary:
Yeah, way too theoretical. And-and also outdated.

This example is insightful because it conveys some of the specific reasons why this individual had a lower opinion of some of his courses. In this case, the problem was that the content of some of his Business courses was not applicable to what was required in the workplace. Specifically, Gary believed that his courses were "too theoretical." This is not to say that he regretted his choice of program. On the contrary, other responses that he provided in the interview reveal that he had no regrets about having completed the Business program. In addition to Gary's comments, there was a relatively even split in terms of the number of graduates who provided positive or negative comments about their courses.

Another specific feature of programs cited by several participants was the instruction they received. Overall, six participants noted that the level of instruction in their programs was "good" (3 Science, 1 Business, 1 Arts, and 1 Education graduate). Four graduates were ambivalent about the level of instruction they received (3 Arts and 1 Science graduate). These individuals noted that, while some of their instructors were particularly "good," others were "not very good." Another four individuals mentioned particular aspects of the instruction they found to be unsatisfactory (2 Arts, 1 Business, and 1 Science graduate). For example, one individual noted that many instructors are more interested in their own research than in teaching. As well, several individuals simply mentioned that their instructors were not very effective.

Besides courses and instruction, one feature of programs that several graduates mentioned as being somewhat weak was academic and career counseling. Throughout the course of the interviews, seven individuals (3 Science, 2 Business, and 2 Arts graduates) mentioned the lack of guidance or career counseling as a weakness of their programs. Here is one example from an Arts graduate which reflects this perspective.

Rob:
You know maybe they should have give everyone an inter-interest inventory at um first year university <first year university? Hm-hmm>. Uh a very specific interest inventory and give you the sheet and 'Here is where your interests lie' <Ok>- you know, even though you don't believe in all this. It's pretty broad anyway, but some of them can get down a little bit more specific <right>- and a comp- with the counseling a little bit, and-and <Well you>. In university <hm-hmm> um and sorry, all the companies out there, you know when they have those career fairs and everything like that <hm-hmm>. But instead of having those, why didn't you just start right off and saying these are the things I need- university, post-secondary provide it <right>.
Jeff:
And you also mentioned before um, about the counseling sessions, you know maybe having some of them earlier on as well- that type of thing.
Rob:
Yeah. Mandatory <yeah>. You can't graduate without going through one <Ok>. But you can't go into second year university without going <without- right yeah Ok> you know <Ok>. Make it mandatory <Ok>- you know um. The thing is that that costs money right <right- yeah-yeah right Ok> So you know it's pretty tough.

Together, these responses suggest that some graduates expected that their programs would take more initiative in providing some type of career counseling. However, not all comments about career counseling were negative. For example, several individuals had positive comments to make about Career and Placement Services (CAPS) at the University of Alberta.

Additional program features that participants mentioned were the size of programs and how students were generally treated by programs at the University. For example, six graduates (3 Science, 2 Education, and 1 Business graduate) mentioned that the smaller size of their particular departments was beneficial. Opposed to this, three graduates (1 Business, 1 Arts, and 1 Science graduate) said that large class sizes were a definite weakness of their programs. In terms of the relationship between students and the University more generally, three individuals believed that the University appeared “not to care” very much about its students. Two of these graduates were also among those who had complaints about career counseling in their programs, suggesting that these individuals may have had higher expectations about what the University should have been doing for students. Nevertheless, the fact that only three individuals voluntarily raised the issue of how students are treated suggests that this was not necessarily a prominent issue for graduates on the whole.

Theme #1: No job after graduating

During the course of the interviews, a number of responses on specific issues were particularly notable in terms of the number of references made, and by the conviction with which they were expressed. As a result, these responses have been grouped together and are discussed as "themes." In this sub-section and in the next, I will discuss two notable themes from the interviews which relate to the ideas being discussed here on program strengths and weaknesses.

One notable program weakness that was mentioned by eleven graduates (30 percent of participants, including 6 Arts, 3 Science and 2 Business graduates), and is discussed here as a separate theme, is that "programs did not lead to a specific job after graduating." This is interesting since all three of these programs are more general in nature, compared to other more specialized programs on campus (e.g., Dentistry, Law). Nine individuals did mention that they recognized that their programs were "general" in nature, suggesting that a number of them did not expect their programs to lead to specific jobs. The following quotations are examples of comments provided by participants which convey the concern that programs did not lead to a specific job after graduating. The first excerpt comes from an interview with an Arts graduate, the second from an interview with a Business graduate.

Jeff:
Um- and just looking back now- what are your- just general impressions of your program in terms of strengths and weaknesses?
Ken:
Uh [he laughs a little]. Umm (P) Ah Jesus- Umm. <Can you?> Um- well- I'm glad I went <yeah> You know I had a good time at U of A and I'm glad I got my B.A. Um- I guess the weaknesses that I didn't really- once I graduated there's nothing- there's no set [illegible]> that I'd go into

Bill
...anything that's uh- um poor about the program is that- doesn't necessarily prepare you for any specific <hm-hmm> you know- uh job- uh you know- you hear about the NAIT grads that come out and they've got <yeah> you know, I'm sure you've heard the whole-whole nine yards <right-yeah>. Business in this province is very geared towards that <Ok>. But there- there was no specific job <Ok>. Um- so that's kind of strange to say but there was-
Jeff:
And was that something you might have been disappointed about when you? <Um> finished in 1991?
Bill:
When I first got out Yeah [he emphasizes this]. Like I'm going 'Well here I am I got a commerce degree' I'm really and- u- then the real world again clicked in <hm-hmm> just like it did after high school and said 'Well great now you got a degree- what's your work experience- what's your background?' right?

With respect to these two quotations, and other similar comments made in the interviews, one of the issues here seems to be expectation. That is, the eleven graduates who indicated that their university education did not lead to a specific job may have had particular expectations about their programs in terms of future employment opportunities. Nevertheless, when asked the question "*what made you choose your particular program of studies?*" (Question 1a), only three of these eleven individuals said they chose their programs for career reasons. Most of these graduates said that they chose their programs because of interest in the discipline. Four of these eleven individuals (3 Arts and 1 Science graduate) also conceded at one point during the interview that they did not really have any expectations of their degrees leading to a specific job after they graduated. This seems to contradict their opinion that a weakness of their programs is that they did not lead to a specific job. The following remark made by the same Arts graduate quoted above (Ken) reflects this apparent contradiction.

Jeff:
So is that a weakness of the program- that they didn't [lead to a job]?
Ken:
Um? I don't know if it's so much a weakness of the program- probably's a weakness on my part <yeah-yeah>- not to get anything that would give you a job. Um- right away but um. No I-I can't really say it was a weakness of the program. You sort of knew what was gonna happen <Ok> once you grad- I mean you know you sort of knew if you were gonna take Arts that <Ok>. You know it's not like Education or you know some other faculties <right-yeah> like Business or whatever that you're gonna go into something.

As suggested, Ken's comment seems to contradict his earlier remark that a weakness of the program is that it did not lead to a specific job. Thus, the opinions expressed by some participants, that their program did not lead to a specific job, may not be as salient as first speculated. It suggests that some individuals may not have been completely certain about how they felt about some of these issues.

Nevertheless, since nearly one-third of graduates provided similar comments on this theme, it is still a notable finding from the interviews. It is interesting to note that more Arts graduates (6 of 10) were likely to indicate that a weakness of their programs is that they did not lead to a specific job. Fewer Science graduates (3 of 13) and Business graduates (2 of 8) indicated this. This finding seems to be in keeping with others presented thus far regarding Arts graduates. For example, a number of

Arts graduates were not satisfied with their transition to the labour market after they graduated, and as a result may have been somewhat unhappy with their programs.

Theme #2: Programs Lack a Practical Dimension

Perhaps the most significant program weakness that participants cited at various points throughout the interviews was the lack of a "practical" dimension. Specifically, nineteen of thirty-seven graduates (51 percent, including 7 Business, 4 Arts, 4 Science, and 3 Education graduates) remarked that their programs lacked a practical dimension. It is interesting to note that all but one Business graduate made some type of reference to this in the interviews. On the other hand, half or fewer graduates from the other three faculties made similar types of remarks. These findings are discussed under the label "practical" because this term was specifically used by several individuals when describing this program weakness. Participants generally used the term "practical" to refer to the ability to apply acquired knowledge and skills outside of the university setting, that is, in the workplace and in everyday life.

This finding is significant, in part because of the higher frequency of responses that were provided on this theme. For example, out of all of the opinions expressed about programs, or other general comments made about university education, this theme was the most common. This finding is also significant because of the conviction with which such comments were sometimes made. Here are three quotations that illustrate this theme; the first from an Arts graduate, and the last two from Business graduates.

Jeff:
Now looking back on your program, what are your impressions of the (Arts) program in terms of its strengths and weaknesses?
Julie:
I think the, the courses that are offered are really really interesting to study <hm-hmm hm-hmm>. Um, the work placements that they facilitate people getting involved in are are good and useful <hm-hmm>. But in terms of the degree itself it's quite um, it's not very practical, <hm-hmm> and it's not very marketable. I think it's good if you're looking at getting maybe into the police force where a degree isn't even necessary or if you wanna get into probation or something it's useful <Ok Ok>. But it's not a very marketable degree.

Jeff:
And now just looking back in terms of your Business program, what are your general impressions in terms of its strengths and weaknesses?
Vic:
Ok. Uh not meaning to be too critical <yeah> but certainly the weakness side is easier for me, I think the lack of practical application. Um I believe that Business schools that focus a lot more on case studies <hm-hmm> develop more recognized uh, more recognized programs and that employers value graduates of certain Business schools a little bit higher
Jeff:
So once again some of that practical?
Vic:
Yeah, yeah. I am not saying that should be NAIT although I'll hire NAIT graduates more than university graduates [he laughs] <yeah>- but I think there has to be some recognition that most of these people want to get employed and their employers like them to have certain skills <hm-hmm> and I think those are two of the ways supposed to be developed <Ok> in case studies and having somebody else involved.

Dave:
Um- uh we talked about it- you know try to get the person ready to go out in the work world, whereas NAIT for example puts you in a business <yeah> environment. We talked about computer skills, we talked about uh, um uh presentation skills, um when I was here it wasn't done <hm-hmm>- that was something I learned [in the workforce] <hm-hmm>. I think when I'm looking for people they've got to be uh uh, you got to have some of those skills taught <yeah>. And maybe it's not the theory, but it's how to open up a Windows document for example. That seems fairly menial <yeah> to maybe a professor to deal with <yeah> but you know that's life -is when I- yeah we're not in academia out in the world.

In addition to mentioning that their programs lacked a practical dimension, at least six individuals (3 Business, 2 Arts, and 1 Science graduate) stated that their programs involved "too much theory." The following two quotations from a Science and a Business graduate illustrate this theme.

Krista:
I think I touched upon this <yeah> earlier on- saying that you know at university I believe the one problem is that it- they're always too focused on the textbook theoretical type of knowledge. Nothing as far as practical hands-on, you know uh experience, for uh for people to learn about. And therefore being able to compete with you know other people, uh applying for the same job…I often find- I often find that you know people that are graduating out of tech schools are getting better jobs than university students
Jeff:
Ok- so is this something that definitely needs to be changed about university education?
Krista:
I think so.

Jeff:
Ok um what are you, some of your impressions of that program in terms of its strengths and weaknesses now that you look back?
Mike:
Hmm- I think like any, well this is a generalization but, like any university program it deals a lot more with theory than real life <hm-hmm>. Um that's probably its biggest weakness I mean <yeah>. I I know for a fact that I've been out like 9 or 10, a couple of girls I work with at (Company X), they've been out, they graduated like within a year of me as well, and the entire time we've been at (Company X) we've looked at our textbooks once- a couple of months ago and we were all like freakin' out, like 'Oh my God we need our stats textbooks' [we both laugh]. Like what's goin' on here? But other than that, like we haven't delved into anything that like we took in university.

"Too much theory" is an implicit part of the comments of the nineteen graduates who cited a lack of practicality. However, these six individuals actually said that too much theory was a weakness. Despite this, not all individuals indicated that the emphasis on theory in their programs was problematic. For example, three individuals (2 Science and 1 Business graduate) did recognize the emphasis on theory in their programs and were content with this.

It is interesting that more Business graduates made reference to a lack of program practicality. This could be because of the types of jobs that Business graduates acquire, particularly those that require practical knowledge and experience. Alternatively, Business courses may be more theoretical than courses in other programs. Some negative comments made by Business graduates (and graduates from other faculties, such as Arts) about the heavy focus on "theory" would support this.

Comments that these graduates made in 1997 about a lack of program practicality might not be surprising, as they were making retrospective assessments of their programs in light of their workplace experiences. However, the problem did not appear to be a difficulty in initially finding work. Of the nineteen graduates who commented on the practicality of their program, only five had a difficult time finding employment. Instead, the issue appeared to be one of making practical use of what they had learned in university once they had a job.

3. General Assessments of University Education

a) *The Value of University Degrees*

While interview participants were asked to assess their specific degree programs, they were also asked to assess a university education more generally, by virtue of the apparent value of degrees in the labour market. As outlined in Chapter 2, theorists such as Bowles and Gintis (1976) and Collins (1979) have argued that success in the workplace is not necessarily dependent on the knowledge and skills acquired in the education system (i.e., the human capital perspective). Instead, these theorists contend that success in the workplace is largely dependent on a system of credentialism whereby employers use educational attainment as a screening device for particular worker traits deemed valuable. This perspective would contend that university graduates have greater worth in the workplace, compared to non-graduates, simply by virtue of the degrees they have acquired. To examine what graduates in this study thought of this issue, they were asked the following question in the 1997 interviews:

> *There is a certain perspective held today that what is really useful for university graduates when they eventually enter the working world is not what they specifically learned at university, but very simply what helps graduates the most is having that degree or piece of paper. Based on your own experiences, what do you think about this?* (Question 6c)

Asking this question provides another way to examine graduates' perceptions on the value of their degrees. This question addresses whether graduates perceive the skills and knowledge acquired in programs to be important for success in the workplace (the human capital perspective), or whether they believe that simply having a university degree provides a signal to employers that they are desirable employees (the "screening hypothesis").

Responses were categorized according to whether individuals agreed or disagreed with the statement presented to them in Question 6c. One point was awarded for each type of response. Sometimes individuals responded "yes" and "no," and provided reasons why they would respond this way. In these cases, one point was awarded for each type of response (one point for "yes", and one point for "no"). Nearly two-thirds of the sample (64 percent, or 21 of 33 individuals) said that, based on their experience, having a university degree (i.e., "the piece of paper") was certainly a valuable commodity in the workplace. Three of these twenty-one individuals agreed outright with the statement presented to them in Question 6c. Here is an example from an interview with an Arts graduate:

Ron:
Well yeah- the paper because um- I just w- I went for a job interview last you know last week, and um- last Wednesday- and the guy's you know- he said 'Oh you have a arts degree'; I go 'Oh yeah.' Um and he said 'Oh' he said 'well you have a step ahead of everybody else because you have a university

degree and now you have this program <hm-hmm>. And he said 'you know it doesn't really matter what your degree is in, it shows me that you are able to go school, learn- you know <hm-hmm> and go through a program' <hm-hmm- Ok>.
Jeff:
Would you say that this-this man's exper- this man's comments towards you- is it kind of- does it summarize this type of uh occurrence for you? Like that you find just having the degree is-is is
Ron:
Yeah <yeah>. Cause I find like- I mean my degree is pretty- like I mean it's Classics <hm-hmm> um [he laughs slightly]. Unless I go into Classics really there's not really any other jobs out there- that I could be applying for <hm-hmm>. So no-yeah it just shows that- the piece of paper still it- like this day the few a degree- the word on a resume means something <hm-hmm>. Like it really doesn't matter I don't think what you've taken.

On the other hand, about half of all participants (48 percent, or 16 of 33 individuals) agreed that, while "the piece of paper" is a valuable commodity, it is not always enough to ensure the acquisition of a job or success in the workplace. Half of these sixteen individuals (8 people) believed that the skills and abilities that individuals acquire in programs are more important than simply having a degree. Here is an example from a Science graduate which reflects this type of response.

Leo:
If you've gone through and done your uh -duties <yeah> you know- uh. I mean you should have learned how to dedicate yourself to something. And then that piece of paper is the end result- of it. It's not- it will get you the job but- what's behind the piece of paper is what the substance is right? <Ok>
Jeff:
So you're saying- so you do see some value in the pro- in-in university?
Leo:
Oh definitely <Certainly> Definitely definitely.

Business graduates provided twice as many responses in disagreement with the statement read to them. That is, more Business students disagreed that having the "piece of paper" was enough for individuals in the labour market. On the other hand, Arts, Science, and Education graduates provided a relatively equal number of responses in agreement and disagreement with the statement.

Thus, many individuals did agree that, as a credential for future employment, a university degree was valuable. That is, a number of graduates did seem to acknowledge that "signalling" or "screening" takes place by employers, and that degrees were helpful in this respect. However, many individuals did not agree that a university degree provided any type of guarantee for employment. Leo's comment above exemplifies this view, as he suggests that a university degree is not always enough and that individuals need to rely on "what's behind the piece of paper." Overall, these results suggest that graduates in this study did acknowledge that a system of credentialism exists, but that a human capital perspective is equally useful in explaining an individual's success in the workplace. By faculty, Business graduates were more inclined to agree with the human capital perspective which contends that individuals acquire skills and knowledge through their education which are valuable for the workplace. Individuals from the other three faculties were more evenly split in their assessments. That is, about the same number of individuals from each of these faculties supported the screening hypothesis and the human capital position.

b) *Perceptions on the University/Labour Market Relationship*

As part of the ESWS questionnaires and during the 1997 interviews, graduates were asked selected questions about the relationship that exists between universities and the labour market. These questions address some of the ongoing debates regarding the role that universities should play in society. For example, while some policy-makers and business leaders advocate that closer ties should exist between universities and the labour market, others adopt the perspective that the type of general education which is provided in many university programs is of value itself. The former position is related to some of the criticisms of the education system which were outlined earlier in Chapter 1. Looking at the responses to these questions from the ESWS questionnaires and the 1997 interviews may help to provide some insight on changes in individuals' perceptions with respect to the university's role in the student-employment relationship.

i. 1987/1989 Findings

As part of the 1987 and 1989 ESWS surveys, sample members were asked to evaluate the following statement: "*Universities should spend more time preparing students for jobs.*" In terms of the 1987 ESWS questionnaire, the majority of sample members would have completed their second year of university studies when the questionnaire was distributed (i.e., spring of 1987). Therefore, they would have had a reasonable amount of experience as students at the University of Alberta in which to assess this question. Results from 1987 reveal that approximately 55 percent of all 123 sample members agreed that universities should spend more time preparing students for jobs, while only 16 percent disagreed[3] (Table 7). Two years later, in 1989, a slightly higher percentage of respondents agreed (59 percent), while about the same percentage of students disagreed (15 percent). Perhaps one of the reasons for a slightly higher percentage of sample members agreeing with this statement in 1989 could have been due to the anticipation that individuals had about their future employment at that time. For example, a large proportion of these sample members would have graduated from university in the same month that they completed the 1989 ESWS questionnaire (i.e., June 1989). It is likely that many would have already been looking for employment at this time. Therefore, some may have been more critical with respect to their views that *"universities should spend more time preparing students for jobs."*

Table 7
1987 and 1989 Responses to the question:
"Universities should spend more time preparing students for jobs,"

		Percent			
		1987		**1989**	
Faculty	N	Disagree	Agree	Disagree	Agree
All Respondents	123	16	55	15	59
Business	20	6	72	10	70
Education	25	12	60	16	64
Science	25	17	50	7	63
Arts	25	27	46	32	48

Comparing results across faculties reveals that the majority of respondents in 1987 from Business (70 percent) and Education (64 percent) were in agreement with the question. As well, exactly half of Science graduates and 44 percent of Arts graduates agreed with this statement. Arts graduates were more likely to disagree with this statement in 1987. Results were generally quite similar in 1989, although more Science graduates agreed with the statement (63 percent) compared to 1987 (50 percent).

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[3] Responses were given on a scale of "strongly disagree" (1) to "strongly agree" (5); categories 1 and 2, and 4 and 5 are combined in Table 7. Totals may not add to 100% since the middle category (3) is omitted.

Some of these findings might be expected, such as the fact that more Arts graduates disagreed that *"universities should spend more time preparing students for jobs."* For example, an Arts education has traditionally been viewed as one which is not as oriented to specific jobs in the labour market as other programs at university (e.g., Education, Engineering). Thus, the finding that a significant minority of Arts graduates disagreed with this statement seems to be in line with this perspective. This finding is also in line with some other responses that these individuals provided in the ESWS questionnaires. For example, as outlined in the last chapter, a lower percentage of Arts graduates in 1989 indicated that having a job related to their field of study was important to them. Once again, this suggests that Arts graduates may not have been as motivated by employment outcomes *initially*, compared to graduates from the other faculties. Nevertheless, the fact that nearly half of all Arts graduates in both 1987 and 1989 did agree with the statement informs us that many of them were still supportive of the view that some modifications should be made in terms of the type of education that universities provide.

ii. 1997 Findings

Addressing a similar line of inquiry regarding the relationship between university education and the labour market, 1997 participants were asked the following question:

> *"Some people have said that universities are 'out of touch' with the needs of their students, in terms of their being able to get a job after graduating. What do you think about this?"* (Question 6a)

Results reveal that eighteen of thirty-five graduates (51 percent) said "no," that universities were not out of touch, fifteen (43 percent) said "yes," and two people did not offer a response. Education graduates (4 of 6 individuals) and Science graduates (8 of 13 individuals) were somewhat more likely to say that universities were *not* out of touch, compared to Business (4 of 8 individuals) or Arts graduates (2 of 10 individuals). As well, of the eighteen participants who said universities were not out of touch, half indicated that it was not the responsibility of universities to help graduates get a job after they graduated. Here is a quote from a Science graduate that reflects this idea.

Jeff:
Um- some people have said that universities of- are out of touch with the needs of their students in terms of their being able to find a job after graduating. Would you agree with this?
Daniel:
Um- perhaps but I don't know if that's the goal- should be the goal of universities I guess <hm-hmm>- necessarily <yeah>. Um- I you know- I did- I was happy to find something that I liked - I thought was interesting and worthwhile- that also happened to- uh be able to get me a job <hm-hmm>. But that wasn't my- um (P) I don't if that's necessarily the goal of university to find a job. I think it's education and- and if it is to find a job then I'm worried that it will- um- make the scope of <hm-hmm> universities too narrow and- and it'll just be another trade school.

It is interesting that, in providing his response, Daniel compared universities to "trade schools." Three more individuals made a similar comparison to other types of post-secondary institutions when providing their answers. The fact that about one-quarter of all participants (9 individuals) made similar comments is a salient finding in the context of this study. Besides this, another three individuals similarly said that it was not the university's responsibility, and added that it was up to students when it comes to being prepared for future employment.

Altogether, the fact that eighteen individuals (51 percent of participants) did not believe that universities were "out of touch" with the employment needs of their students suggests that a sizable number of graduates did not believe that universities should specifically orient their education to labour market outcomes.

Nevertheless, a little more than four-tenths of participants (15 people or 43 percent, including 6 Arts, 4 Business, 4 Science, and 1 Education graduate) did indicate that universities *were* "out of touch." Some were more adamant about this than others, but all of these individuals did agree that universities were "out of touch" to some extent. Once again, a few examples help to illustrate some of the opinions expressed. The first quote is from a Business graduate, the second is from an Education graduate.

Jeff:
Some people have said that universities are out of touch with the needs of their students in terms of their being able to get a job after graduating <yeah> What would you say to this?
Vic:
I'd say they're right on the money <really?>. And I know that a lot of university faculty will say, "Well, we're not a job training ground," but two hundred other countries in the world are a job training ground <yeah> and we want people to be productive citizens so I am not saying that you gonna take every Arts and English course <hm-hmm> that does not have a direct application to employment cause I think they do teach useful lessons. But yes, the universities are out of touch.

Jeff:
Some people have said that universities are out of touch with the needs of their students in terms of their being able to get a job after <hm-hmm> graduating. What would you say about this based on your experience?
Olivia:
Uh in some ways yes <in some ways>- in some ways. Um they got, well they're starting now, even high schools are starting now to get the the partnerships <hm-hmm> and that's something they should keep going with and and develop that a lot more. Um that would make that transition so much better and university should maybe take that-

The question is why these fifteen individuals (43 percent) said that universities were out of touch in terms of preparing students for the labour market. One possibility might be that these graduates had difficulty finding employment after graduating. However, participants' responses regarding their initial search for employment (Chapter 4) reveal that only four of these fifteen people actually had difficulties getting a job after graduating. On the other hand, one interesting finding is that twelve of these fifteen individuals (80 percent) did mention during the interviews that a weakness of their university education was that it lacked a practical dimension. Therefore, these individuals may have expected their university education to do more with respect to teaching skills and knowledge that is applicable to the labour market. For example, if we compare these graduates to those individuals who said that universities were *not* out of touch, only thirty-nine percent of the latter indicated that a weakness of their education was that it lacked a practical dimension. Overall, about one-third of graduates indicated both that universities were out of touch with the employment needs of their students, and that programs lacked a practical dimension.

Whatever the specific reasons for why individuals responded to this question the way they did, it is notable that little more than half of the interview sample were content with the role that universities play in terms of preparing students for the labour market, while a little less than half believed that universities could perhaps be doing more. This finding could be seen as somewhat re-assuring to universities, but also somewhat troubling as well. It suggests that a slim majority of graduates in this study are happy with the current relationship that exists between universities and the labour market. On the other hand, a sizable minority of graduates were not completely content in this respect.

Besides this, a related finding which emerged from the interviews addresses the topic of universities being "job-training centres." Sometimes this issue was raised by the author in the form of a question (i.e., *"Are universities job training centres?"*) during the interviews, and sometimes it was mentioned by participants voluntarily. Overall, this issue was raised eleven times. Five participants agreed that universities should be job training centres, four people disagreed, and two were ambivalent. Here are a few quotations which illustrate this debate; the first from a Business graduate who agreed that universities should assume the role of job-training centres, and the second from an Arts graduate who disagreed.

Dave:
...we've got a course in this training program [i.e., at work], how to make a presentation <hm-hmm> and it's not the information, you can come and make a presentation on how to sell a tractor <yeah>. But it's how to get eye-contact with the people, make sure you scan the room, don't fidget, don't talk to the screen, <don't read your notes> don't read your notes exactly. Um those are things that again it's real life type application <ok>. And I don't know, maybe- maybe the professors here don't like to do that- they want to teach the theory- um but they don't understand any of the uh- the-
Jeff:
I guess there's a bit of a perception that a university isn't a job-training centre
Dave:
Yeah but I got- I got to tell you something. If it's not- if it's not a job-training centre, um or not- I shouldn't say a training centre, but if it doesn't prepare you for <yeah> what's out there after university, and NAIT does or Grant McEwen does, there's a lot of competition for that dollar right now <hm-hmm>...It's expensive so- if you're you're competing like I am for money, you've got to be able to offer something that when you're done here this is what I'm gonna do <right>. And this is what you will be able to do <hm-hmm>. Because if you're just saying listen I've got four years of school here in front of me, and you're gonna have to pay me I don't know 12, 15, 20 thousand bucks, for those 4 years <yeah> and I don't know what the heck I'm gonna get at the end for that investment, but NAIT does or Grant <right> McEwen does, well...
Jeff:
So it's more of a job training centre than academics would let you- <yeah> lead you to believe
Dave:
Yeah. Oh I I would- I would think it should- it should become more of a job training centre <hm-hmm>. Not where you're gonna come in and become a pipe fitter, or cause there's trade schools- don't fit trade school and job training <no> but um it's got to prepare you for <hm-hmm> what you want to do <ok> and give you the options because if you don't, you're not gonna like it.

Maurice:
...I don't believe universities should fill specific job holes or <yeah> niches <hm-hmm>. I do believe universities should um mature individuals <hm-hmm>, should develop individuals, make them better learners, make them capable of carrying out uh-
Jeff:
So universities aren't job training centres? Some people would say.
Maurice:
No. Never have, never should be <yeah>. That's what Grant McEwen's for <yeah>. And if if businesses are going to do its own training <hm-hmm> and ?? some of the resources, human resources,

> then yes an individual should go to Grant McEwen and get that specific training for that specific job or opportunity.

As revealed by these two quotations, participants had very different views on the role that universities should play in terms of preparing students for the labour market. All five individuals who agreed that universities should be job-training centres had also mentioned that universities were 'out of touch' in preparing students for the labour market. As well, of the five participants who agreed with this idea, all had made comments throughout the interviews that their university education lacked a practical dimension. On the other hand, three of the four participants who disagreed that universities should be job training centres did not make any negative reference to a lack of a practical dimension in their university programs.

Although based on a fewer number of cases (11 in total), graduates seemed somewhat divided on the issue of universities assuming the role of a job training centre. This concurs with findings from Question 6a, (i.e., "universities are out of touch"). As well, recall that just over half of all participants (19 of 37) indicated that university programs lacked a practical dimension. Therefore, considering all of these findings, it appears that participants are divided on the issue of whether universities should be assuming more responsibility in preparing students for employment.

Another point worth mentioning is that of the five individuals who were in favour of the idea of universities being job-training centres, three were Business graduates. This is noteworthy since a larger number of Business graduates (7 of 8 individuals) were also of the opinion that their programs lacked a practical dimension. As well, about half of all Business graduates said that universities were out of touch in terms of preparing students for the labour market. However, this is not to suggest that graduates from the other three faculties were opposed to the university's role in this respect. For example, slightly more Arts graduates said that universities were out of touch in terms of preparing students for employment, compared to the other faculties. As well, at least one-third to one-half of graduates from the faculties of Education, Arts and Science commented that their programs lacked a practical dimension. However, considering a number of these findings, it appears that Business graduates were somewhat more favourable about the idea of universities assuming more responsibility in providing a more practical, employment-oriented approach in the education that they provide.

iii. Comparison between 1987/89 and 1997 Findings

Generally, the findings from the 1997 interviews are comparable with those from the 1987/89 panel data. For example, in 1997, fifteen of thirty-five participants (43 percent) indicated that *"universities are out of touch with the needs of their students in terms of their being able to get a job after graduating."* By comparison, 55 percent of all 1987 sample members and 59 percent of all 1989 sample members indicated that *"universities should spend more time preparing students for jobs."* As mentioned, strict comparisons between the interview data and the panel data are not possible since the question wording was not the same. Nevertheless, these questions do address very similar issues, that is, the role universities play in preparing students for the labour market. These over time survey findings suggest that there was not a strong majority of graduates that either agreed or disagreed with this issue, and data from the 1997 interviews seem to concur. For example, among those interview participants who discussed the idea of universities being job-training centres, about half agreed with this idea and about half disagreed. Additionally, as already noted, about half of all interview participants (19 of 37) indicated that their programs lacked a practical dimension.

Once again, these findings suggest that respondents in the 1987/1989 ESWS and the 1997 interview participants seem to be divided with respect to the role that universities should play in preparing students for jobs. While a number of individuals seemed to suggest that a university education should not be more oriented to the labour market, a sizable number of graduates were of the opinion that universities should acknowledge the labour market outcomes of students. In the next chapter, this issue will be addressed again, specifically as this relates to the types of skills that students develop at university.

4. Future Plans for Education

As part of the 1997 interviews, participants were asked whether they planned to obtain any additional post-secondary education in the future. Specifically, they were asked: *"Do you think you will need more education in the future?"* (Question 21c). Part of the reason for asking this question was to examine how many graduates planned to pursue more education, and of those who were, why they were planning on this. Examining the specific reasons why participants were pursuing additional education might inform us as to whether they were satisfied with the type and/or their current level of education, as well as the jobs they had acquired. As well, examining this issue might inform us about graduates' perceptions regarding the need for more education in light of labour market conditions in the 1990s.

Overall, thirteen of thirty-six interview participants (36 percent) said "yes," and that they definitely thought they would acquire another post-secondary degree or diploma in the future. Another six individuals (17 percent) indicated that completing another academic program in the future was a possibility, although they did not think they would likely pursue this goal in the near future. Five more individuals (14 percent) indicated that they would not be acquiring any further post-secondary education. Finally, twelve individuals (33 percent) thought that the only additional education that they would likely acquire would be specific courses related to their work.

Among the thirteen individuals (36 percent) who were very confident that they would be completing another post-secondary program, a greater number of these were Arts graduates. Specifically seven of ten Arts graduates answered "yes," versus four of thirteen Science graduates, as well as one Business graduate, and one Education graduate. At least five of these thirteen individuals (3 Arts, 1 Business, and 1 Science graduate) indicated that they would likely complete a business program, including three participants who mentioned an undergraduate business program or college diploma program, and one individual who indicated he would likely complete an MBA. Two of the thirteen individuals had already applied for Master's degree programs, another two indicated that they were fairly certain they would be completing a Master's degree of some sort in the future, while two more people said that they would likely complete a Law degree. Examples of other degrees or programs that participants mentioned included an Engineering degree, an Education after-degree, and a counseling program.

Nine of the thirteen individuals who were certain about these future plans said that it was because of their career aspirations which required additional education. The remaining four individuals (2 Arts and 2 Science graduates) suggested that their desire to pursue additional education was because of regrets they had about choosing their original undergraduate programs. Seven of these thirteen individuals (54 percent, including 4 Arts, 2 Science, and 1 Business graduate) had mentioned elsewhere in the interview that they believed that their programs lacked a "practical" dimension. As well, only three of these thirteen individuals (23 percent) believed that universities should spend time teaching more specific job-related skills instead of general types of skills. Therefore, in some respects, it does not appear that the majority of graduates who were planning to pursue more education were necessarily doing so because of a deficiency in the types of skills which are taught at university.

As outlined in Chapter 3, eleven individuals had already completed some additional post-secondary education (following their undergraduate programs). The majority of these people (8 of 11) had pursued these programs because they were required for a particular career that they aspired to. The other three individuals (2 Science and 1 Arts graduate) had completed business diploma programs at a community college since graduating from university because they believed that completing these programs would help them in the labour market[4]. Nevertheless, even though these eleven participants had completed additional post-secondary programs, six said that they would still require even more education. Only one of these six individuals (a Science graduate) said that more education was still required because of problems he was having in finding satisfactory employment.

Overall, it appears that the majority of individuals were content with the amount and type of post-secondary education that they had already acquired, as only thirty-six percent of participants said that they were planning to pursue another post-secondary program. Arts graduates were most likely to indicate that they would be completing another post-secondary program. As well, only four of thirty-six participants (11 percent) specified that they would be pursuing another academic program because of poor educational choices they had made in the past. Of these, Arts and Science graduates were the only ones to specify this. As outlined earlier, more Science and Arts graduates also indicated that they had regrets about their educational choices. Together, this suggests that graduates from these two faculties may have been less satisfied with their educational choices and therefore may have perceived the need to pursue more education.

Interview participants were also asked a more general question regarding the need for educational requirements in society today. Specifically, they were asked, "*Do you think Canadians*

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[4] One individual was in the process of completing a business diploma at a community college in British Columbia.

will need higher levels of education in the future?" (Question 21a). Twenty-five of thirty-four people (74 percent) said "yes," eight said "no," (26 percent), while one person was uncertain. Among the twenty-five participants who said "yes," ten indicated that more education would be needed for people just to be able to adequately compete for jobs in the labour market. Four individuals indicated that higher levels of education would be required in order for Canada to be able to adequately compete on a global scale. Another four individuals indicated that Canadians would need higher levels of education specifically because of new high technology areas which were opening up in the labour market.

Jeff:
Um do you think Canadians will need higher levels of education in the future? Canadians in general? Needing higher levels of education?
Krista:
I-I I I believe it's true. Um, you know as I said earlier, um nowadays it almost seems like everyone under the sun has a bachelor uh degree or some sort <hm-hmm>. And in order to compete out there in the working world um you know the higher level of education that you have um you know the more competitive you can be.

Jeff:
Do you think Canadians will need higher levels of education in the future? <um?> Canadians more generally?...
Ron:
I think yeah, I think um- people do-will need more, they definitely will need more education <hm-hmm>. Um I don't think I mean is there anyone who even just finishes their high school diploma and that's it? <yeah- right>. Like you definitely need something else <hm-hmm>. Um and if you don't, uh I don't think you're gonna be doing any satisfying jobs.

Additionally, among the twenty-five individuals who believed that Canadians would require more education, ten indicated that the "computer field" was one in which more education would be required, while another eight individuals cited the "high-tech field" as one where higher levels of education would be needed.

Among the eight individuals (26 percent) who *did not* believe that Canadians would require higher levels of education, three indicated that Canadians have already acquired enough formal education and that higher levels would not be necessary. As well, two individuals indicated that, instead of completing higher levels of education, more Canadians would likely be starting their own businesses in the future.

Therefore, a large majority of interview participants believed that Canadians will require higher levels of education in the future. Responses suggest that a majority of participants viewed higher education as a necessary means for helping individuals compete in the labour market. Thus, when reflecting on the future, many graduates see the value of pursuing a post-secondary education.

Summary

This chapter examined more closely how graduates subjectively assess their university education several years after graduating. It addressed several of the research questions that were outlined in Chapter 2, specifically:

1) How do 1989 graduates evaluate their university education several years after having graduated? What are some specific features of their programs that they recognize as strengths and weaknesses?

2) Have graduates' assessments of their university education changed over time?

3) Do graduates' assessments of their university education vary by program of study?

Findings revealed that several years after graduating, individuals in this study were generally very positive about their educational experiences at university. For example, in 1989, 1992 and again in 1997, a majority of graduates (70-75 percent) indicated that they were content with the educational choices they had made. As well, almost all 1997 interview participants indicated that "it was worth it" for them to have completed their undergraduate degrees. Of those individuals who did have some regrets about there educational choices, most said that they should have chosen another program of studies. In all time periods, very few graduates suggested that they should have attended another type of post-secondary institution, rather than university. By faculty, both Science and Arts graduates in all three time periods were more likely to indicate that they should have chosen another program, perhaps because of their subsequent labour market experiences after graduating. For example, a number of Science graduates indicated in the interviews that they had difficulties finding work when they graduated. With respect to Arts graduates, findings from Chapter 4 revealed that these individuals were more likely to indicate that they were "overqualified" for their jobs in both 1992 and again in

1997. Thus, it is likely that these experiences in the labour market influenced some Science and Arts graduates' perceptions of their programs.

While a majority of graduates appeared to be content with the educational choices they had made, 1997 interview participants were given the opportunity to provide additional assessments of their programs, in terms of program strengths and weaknesses. Overall, many graduates had positive comments about their programs. For example, just under half volunteered comments that their programs were "good" or "very good," while only two participants (both Arts graduates) said that their programs were weak. However, despite many of the positive comments provided, two prominent weaknesses of programs that interview participants mentioned were: (1) programs did not lead to a specific job after graduating; and (2) programs lacked a practical dimension. With respect to the first weakness, about one-third of participants remarked that programs did not lead to a specific job. Arts graduates were more likely to answer this way (6 of 10 Arts graduates). This finding is interesting, considering the fact that fewer individuals in Arts were of the opinion, in both 1987 and 1989, that *"universities should spend more time preparing students for jobs."* However, it is consistent with another finding from the 1997 interviews that slightly more Arts graduates mentioned that universities were "out of touch" with the employment needs of their students. Together, the findings suggest that Arts graduates may have altered their perspective on the role that universities should play in terms of preparing students for jobs. That is, over time, Arts graduates may have developed a more instrumental attitude with respect to the type of education that individuals should receive at university. This change in attitude may have developed because of difficulties that some Arts graduates had experienced in the labour market in the intervening years, specifically in terms of finding jobs which matched their fields of study and for which they believed they were qualified.

However, the most prominent program weakness identified by more than half of all graduates (51 percent, or 19 interview participants) was that programs lacked a "practical" dimension. All but one Business graduate mentioned this weakness, while approximately one-third to one-half of graduates from the other three faculties responded in this way. Some of these individuals remarked that their programs were "too theoretical," and not practical enough. While graduates did not always specify exactly what they meant by "practical," their responses generally implied that their programs lacked some specific type of relationship with jobs in the labour market[5]. Perhaps Business graduates were more likely to volunteer comments about this weakness because their jobs required certain practical skills and knowledge that they believe they should have learned at university.

Other findings revealed that individuals were generally supportive of the value of university degrees, both as credentials (i.e., supporting the "screening hypothesis") and in terms of what individuals learn and take with them into the workplace (i.e., supporting the "human capital" perspective). For example, 1997 participants were asked whether simply having a degree or "piece of paper" was enough for graduates when they entered the labour market. More than sixty percent of individuals acknowledged that university degrees were valuable in the labour market, suggesting that many supported the idea that degrees themselves act as a valuable credential. However, half of the interview participants also suggested in their answers that it is "what is behind the piece of paper that is really important." Business graduates were most likely to agree with the human capital position which contends that individuals acquire valuable skills and knowledge through higher education which can be utilized in the workplace. This finding is very interesting since Business graduates were also more likely to say that they should have learned more "practical" skills and knowledge in their programs. It suggests that the types of skills and knowledge that Business graduates received in their program were of value in the labour market, but that some additional practical skills would have been of even greater value.

The findings in this chapter suggest that the graduates in this study did largely value their university education several years after graduating, despite the fact that they also noted some weaknesses in their programs (e.g., programs were not practical enough, and did not lead to specific jobs). As well, the findings suggest that graduates were satisfied with the "human capital" that they had acquired in their programs. A more explicit consideration of how graduates assessed this human capital, specifically as this relates to skill development, will be presented in the next chapter.

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[5] It was only after initial analysis of the data took place, that this theme really emerged. Therefore, during the interviews, the author did not always probe for a more extended response from participants about the lack of a practical dimension.

Chapter 6
Findings

University Education and the Development of Employment Skills

The last chapter presented findings on graduates' subjective assessments of their university education several years after having completed their programs. This chapter continues to rely on subjective assessments to examine in more detail the specific skills that graduates believe they developed through their education, and the applicability of these skills for the workplace. Thus, this chapter builds on the previous two by further examining the value of a university education, but from the standpoint of the specific nature of the human capital that graduates acquire. In this sense, the findings from this chapter are most directly applicable to the policy debates (outlined in Chapter 1) which question the value of a university education, and specifically the human capital that graduates take with them into the workplace. In addition, the findings from this chapter are also applicable to theoretical research on "human capital" itself. Examining the types of skills acquired by graduates through a university education, and the applicability of those skills for the workplace, will help to detail what "human capital" conveys in the context of the school-work transitions for these graduates.

The findings in this chapter specifically address the third set of research questions on skill which were posed at the end of Chapter 2. Let us review these questions.

1) Which employment skills do 1989 university graduates identify as having been learned in their undergraduate programs? Related to this, what employment skills do they say they should have learned at university?

2) Have graduates' assessments of some of the employment skills they acquired changed over time?

3) Which employment skills have graduates been able to utilize in the workplace?

4) What are graduates' assessments of the role of universities in teaching employment skills?

5) Is program of study a determinant of the types of employment skills that graduates indicate they learned, or should have learned, at university?

6) How do graduates define terms like "skill" and "skilled job"?

Questions 1 and 3 (on skill acquisition and skill utilization) are important in that they relate to the policy debates on university-work transitions which are being addressed in this study, as well as to research on human capital. Question 4 extends discussion on some of the information presented in the previous chapter (on subjective assessments of university education), but specifically addresses graduates' assessments of the role of universities for developing employment skills. Questions 2 and 5 also address other important elements of this study, that is, changes in responses in an over time context, and the importance of field of study in explaining variation in responses. As well, Question 6 addresses an often overlooked aspect of the topic of skill, that is, how "skill" is actually defined.

Once again, findings in this chapter come from the 1985-1992 ESWS surveys and the 1997 semi-structured interviews. As with the previous two chapters, the larger focus will be on the findings from the 1997 interviews. Where relevant, and where comparable indicators exist in both of these data sources, some comparisons will be made between the two in order to examine changes in perceptions and attitudes over time.

1. Evaluations of the term "Skill"

a) *What is Skill?*

Examining graduates' assessments of their skill development is a key component of this study, given many of the policy debates regarding university education which I have discussed earlier. Given this focus on skills, it would be useful to consider how graduates themselves define the term. Knowing something about the definition ascribed to the term (i.e., specifically as the term "skill" is used in the context of education and work) may provide a context for an analysis of the types of skills graduates indicate they developed in their university programs. As well, since sociologists and other social scientists have usually adopted one of two definitions for the term skill (i.e., the *skill in individuals* or the *skill in jobs* perspective), it would be useful to examine how university graduates conceptualize "skill" in this respect.

Participants were asked two questions regarding the definition of skill. The first question that 1997 participants were asked on this issue was:

> *"In the media, the word skill has frequently surfaced over the past few years, and it's often used in the context of discussions on the workplace and education. I've been talking to people*

> ***about what skill means. So far I've been given a number of different responses on what it means. While you may not have thought about it before, what does the term skill mean to you?"*** **(Question 2)**

Participants were asked this question near the very beginning of the interviews, as I wanted to examine how they defined this term prior to asking them more detailed questions about the type of skills that they developed in their academic programs.

All thirty-seven participants were asked this question. Some participants offered responses which implied more than one meaning. However, in terms of *initial* responses provided, a large majority of individuals (24 of 37, or 65 percent) indicated that skill meant an "ability to do something." Here are three typical examples.

Leo:
Well skill is the ability to do what you can do <hm-hmm>- Ok> you know (P) What you can do <hm-hmm>. So- when you're a- if you're job hunting or-r I mean. The employer wants a certain skill <yeah-hm-hmm>. So you either have to match- change yourself to meet that skill or educate yourself <hm-hmm> to meet his or her skills <right>. But basically the skills are what you can do at that point in time.

Pamela:
A skill basically I, it means to me the um ability to to do the job essentially speaking, I mean what you can bring to the job- what uh, what are your skill base, what sort of tools you, have you been able to develop.

Carey:
It's the ability to do something, to accomplish tasks.

Along with indicating that skill implied an "ability to do something," three individuals mentioned (as their initial response) that skill meant having an ability which is acquired through "extra schooling." Related to this, three people said that skill is something gained through "extensive training." Three people also said that skill meant "knowledge." Two more graduates suggested that skill meant individual "aptitude."

In their additional responses, nine people indicated that skill meant the "application" of specific knowledge to a task. Some of these people mentioned being able to apply this knowledge in a

job setting. Four people indicated that skill meant having "experience" which would allow someone to be able to do something. Besides those who said that skill meant the "ability to do something" (as initial responses), four more people indicated this as subsequent responses (or 28 individuals overall). As well, three more people indicated that skill meant "aptitude," (or 5 people overall) while two more people implied that skill meant "knowledge" (or 4 individuals in total).

Therefore, considering all responses, thirty-six of thirty-seven participants (97 percent) mentioned that skill was something that was part of an individual, whether it was an ability, acquired knowledge or aptitude. These responses suggest that graduates conceptualized skill as a "thing" or quality that an individual possesses and which gets invoked in required situations. Therefore, with respect to the way that social scientists have defined the term in the past, it appears that almost all participants in this study adopted a *"skill in individuals"* definition of the term. This is useful to know, since this study is examining skill mainly from a human capital perspective (or a *skill in individuals* position), specifically as something which individuals bring with them from the education setting and into the workplace. Since individuals in this study placed a priority on individual abilities in their responses, they appear to perceive that skills are something which individuals are required to bring to the workplace themselves, as opposed to job traits. Additionally, this finding may reveal that individuals look to educational institutions to help develop students' employment skills. The findings that are presented in the remaining part of this chapter shed further light on this subject.

b) *What is a skilled job?*

The second related question asked of the 1997 participants was: *"What is a skilled job?"* (Question 11). This question provided another way to examine how participants defined skill, namely, whether individuals perceived a "skilled job" to be one which requires specific learned abilities or "human capital" required by individuals prior to entering jobs, or whether skills are manifested in jobs themselves. As well, since graduates were asked to assess a number of characteristics of their jobs (Chapter 4), it was believed that examining their perceptions of the term "skilled job" might help to convey how they assessed jobs at a more general level. For example, if it was found that individuals believed that "skilled jobs" required certain credentials, then this might help to explain why they assessed their own jobs in a particular way.

Eight of thirty-five individuals (23 percent) suggested that "*any* job is a skilled job" because all jobs require certain skills. Examples of jobs that people provided included mechanic, working in a laundry, doctor, construction worker, and working in a fast food restaurant. What was suggested by some of these responses was that participants associated the term "skilled job" with higher status positions, and were somewhat displeased with the idea that not all jobs were equally valued in our society. Nine people also indicated that *many* types of jobs are skilled jobs, but unlike the previous eight people, they did not necessarily indicate that *any* type of job was a skilled job.

Related to this, thirteen people were asked a supplementary question, that is, whether they would make a distinction between jobs such as a doctor or dentist, versus preparing meals in a fast food restaurant, in terms of being skilled jobs. In most cases, I used this type of specific example when asking this question. Eight of these thirteen participants (62 percent) said that they *would* make a skill-related distinction between different certain types of jobs. Examples of jobs that participants volunteered as not being skilled included work on an automobile assembly line or working at McDonald's. The remaining five people indicated that they would not necessarily make a distinction between different types of jobs in terms of their skill level, although four of these five people had already said that all jobs were skilled. Therefore, altogether, while nine people believed that all jobs were skilled job, nearly twice as many (16 people) indicated that not all jobs were necessarily skilled.

Another more common response to this question was that a skilled job is one in which a "specific skill is learned." Specifically, eleven participants (31 percent) answered this way. Here is one example that exemplifies this type of response.

Jeff:
Now just a- another slightly little more general kind of question. But what is- what is a skilled job in your opinion- a skilled job?
Darren:
Hmm. Skilled job. Well- I guess having like- see they post a-a job for a skilled person. Having like certain specific skills. Like say a computer programmer- like you need certain little specific skills that you can bring- bring to the job I guess <Ok> Right? <Ok>.
Jeff:

So certain types of abilities and (that you can)?
Darren:
(Yeah) specific abilities and <yeah> right? And duties that need to be performed.

As noted by Darren (and mentioned by at least five others), a skilled job requires that individuals bring some specific skills or abilities to their job. Similarly reflecting the view that individuals need to possess skills, seven participants indicated that a skilled job is one in which individuals have an ability which is "above and beyond what others may have." Five participants also mentioned that a skilled job requires individuals to have some type of post-secondary education, while six individuals said that extensive training or expertise is required.

Besides these responses, four individuals indicated that the term "skilled job" made them think of a "technical" skill or ability, or a "technical/trade" related job. Some examples of jobs which participants considered "technical" included dental hygienist, ultra-sound technician, mechanic, doctor, and dentist. The suggestion in such answers is that individuals in these types of jobs have specific abilities which are acquired through education and training.

The question *"What is a skilled job"* was also similarly asked by Francis and Penn (1994) in a study they conducted in England in the mid-1980s. They found that responses to this question fell into four larger categories including "training" (49 percent of responses), "qualifications" (15 percent), "high ability" (12 percent), and "experience" (8 percent), while the remainder involved an assortment of other types of responses. In the current study, many responses fall into three of these categories, including "qualifications," (i.e., education and other skill-related qualifications) "high ability" and "training." However, the ordering of these responses differed from the Francis and Penn study. The most frequently cited response in the current study was "qualifications" (33 percent), followed by references to "high ability" (19 percent), and then "training" (11 percent). In the British study, training was clearly the most prominent type of response. One category of responses that differed in the current study was "all jobs are skilled jobs" (15 percent of responses). In comparison, there was no mention of this in Francis and Penn's study. Overall, more references were made to "qualifications" in the current study, while fewer participants cited "training" in their responses. Generally, these differences may be the result of very different sample sizes (37 in the current study, and 987 in the Francis and Penn study). However, another explanation may be that participants in the current study all had undergraduate degrees and therefore placed a greater emphasis on educational qualifications, as opposed to job training. In contrast, sample members in the Francis and Penn study had a wider range of educational backgrounds. Another explanation involves cultural differences. British workers are more likely to be familiar with the term "skilled trades," in reference to blue-collar jobs requiring explicit apprenticeship training.

A broader conclusion that Francis and Penn draw from their study is that different occupational and age groups conceptualize skill in various ways. They found that younger workers were more likely to cite "qualifications" in their responses compared to older workers. Thus, the fact that more individuals in the current study (i.e., relatively young educated workers) mentioned "qualifications" in their responses, could similarly be interpreted as an age factor. Younger workers, particularly those who are well educated, look to "qualifications," and particularly educational qualifications, as important for their success in the labour market (Krahn, 1996).

Responses to the question *"What is a skilled job?"* are similar to those for the previous question (i.e., "*What is Skill?";* Question 2). For example, twenty-four participants (70 percent) indicated that a "skilled job" meant that individuals have specific abilities. Therefore, a majority of individuals believed that there is an expectation that individuals should have specific abilities prior to entering their jobs. In response to Question 2, thirty-six participants (97 percent) similarly indicated that "skill" implied abilities or an aptitude on the part of the individual. Although the questions are worded differently, both reveal that participants strongly associate individual abilities with the term skill. In this respect, responses to both of these questions are more supportive of a human capital definition of skill.

2. Skill Development at University

a) *Graduates' References to Skills Developed at University*

One of the most central elements of this study is its focus on the skills that graduates may develop at university and which are relevant to the workplace. Therefore, 1997 interview participants were asked several questions throughout the interviews addressing this topic. The first and most focused question was: *"In your program, what types of things did you learn, or what types of abilities did you develop that are relevant to jobs or the workplace?"* (Question 3a). The first part of this section will present responses to this question. As well, throughout the course of the interviews, participants mentioned additional skills that they believed they learned in their programs. Table 8 summarizes the skills or abilities that participants *volunteered* in response to Question 3a and throughout the interviews.

As Table 8 reveals, overall, participants made 133 references to various skills or abilities that were learned or developed at university. Thirty-four different skills were cited. One hundred and thirteen references were made in response to Question 3a (outlined above), and twenty more were mentioned at other times during the interviews. On average, sample members cited 3.6 skills each throughout the interviews. Business graduates made the most references to learned skills (37 references or 4.6/ person), followed by Science graduates (47 references or 3.6/ person), Arts graduates (34 references or 3.4/ person) and Education graduates (15 references or 2.5/person).

In order to analyze these references to employment skills, the thirty-four skills were coded and organized into eleven skill types: *analytical/ reasoning skills, social/ interpersonal skills, communication skills, substantive skills/ knowledge, time management, learning techniques, work habits/ skills, developing a broader perspective, creativity, general skills,* and *computer skills.* Table 8 reveals that the categories *analytical/ reasoning skills* and *social/ interpersonal skills* comprised the most common skill types that participants mentioned they learned in university, with twenty references each. These categories were followed closely by *communication skills* with nineteen references, including such things as general "writing skills," "writing papers," "presenting" and "speaking," "leadership" and "general communication skills." The next most frequently cited skill types were

Table 8
Skills/Abilities Learned at University: Number of Responses Volunteered by Interview Participants

Skill /Ability	**Business** *(8 graduates)*	**Arts** *(10 graduates)*	**Science** *(13 graduates)*	**Education** *(6 graduates)*	**Total # Times Mentioned**
Analytical/ Reasoning					
-analytical	3	3	2	0	8
-problem-solving	1	3	3	0	7
-to think	2	0	2	0	4
-critique	0	1	0	0	1
Sub-Total	**6**	**7**	**7**	**0**	**20**
mean	*0.75*	*0.7*	*0.53*	*0*	*0.54*
Social/ Interpersonal					
-work with people	3	2	2	2	9
-team-work	3	0	2	0	5
-social	0	0	1	0	1
-understand people	1	2	2	0	5
Sub-Total	**7**	**4**	**7**	**2**	**20**
mean	*0.88*	*0.4*	*0.54*	*0.33*	*0.54*
Communication					
-communication	0	1	1	1	3
-reading	0	0	1	0	1
-writing	0	1	2	2	5
-writing papers	1	2	1	0	4
-presenting	2	0	0	0	2
-speaking	0	1	1	1	3
-leadership	0	1	0	0	1
Sub-Total	**3**	**6**	**6**	**4**	**19**
mean	*0.38*	*0.6*	*0.46*	*0.66*	*0.51*
Substantive Knowledge					
-substantive	2	2	7	4	15
Sub-Total	**2**	**2**	**7**	**4**	**15**
mean	*0.25*	*0.2*	*0.53*	*0.66*	*0.4*
Time-Management					
-time-management	4	3	3	1	11
-organizational	0	0	0	1	1
-pressure	0	1	0	0	1
Sub-Total	**4**	**4**	**3**	**2**	**13**
mean	*0.5*	*0.4*	*0.23*	*0.33*	*0.35*

Table 8 (continued)
Skills/Abilities Learned at University: Number of Responses Volunteered by Interview Participants

Skill /Ability	**Business** *(8 graduates)*	**Arts** *(10 graduates)*	**Science** *(13 graduates)*	**Education** *(6 graduates)*	**Total # Times Mentioned**
Learning Techniques					
-how to learn	4	3	1	0	8
-research/ resource	1	2	0	1	4
-note-taking	0	0	1	0	1
Sub-Total	**5**	**5**	**2**	**1**	**13**
mean	*0.63*	*0.5*	*0.15*	*0.2*	*0.35*
Work Habits/Skills					
-self discipline/ work independently	0	1	4	0	5
-work hard	1	0	0	1	2
-accuracy	0	0	2	0	2
-persistence	1	2	0	0	3
-patience	0	0	0	0	0
Sub-Total	**2**	**3**	**6**	**1**	**12**
mean	*0.25*	*0.3*	*0.46*	*0.2*	*0.32*
Broader Perspective					
-interdisciplinary knowledge	0	0	1	0	1
-liberal arts education	1	0	1	0	2
-broader/global perspective	1	2	5	1	9
Sub-Total	**2**	**2**	**7**	**1**	**12**
mean	*0.25*	*0.2*	*0.54*	*0.2*	*0.32*
Creativity					
-creativity	2	0	0	0	2
-flexible/ adaptable	0	1	1	0	2
Sub-Total	**2**	**1**	**1**	**0**	**4**
mean	*0.25*	*0.1*	*0.07*	*0*	*0.11*
General Skills	2	0	1	0	3
Sub-Total	**2**	**0**	**1**	**0**	**3**
mean	*0.25*	*0*	*0.07*	*0*	*0.08*
Computer Skills	2	0	0	0	2
Sub-Total	**2**	**0**	**0**	**0**	**2**
mean	*0.25*	*0*	*0*	*0*	*0.05*
TOTAL	**37**	**34**	**47**	**15**	**133**
Mean	*4.6*	*3.4*	*3.6*	*2.5*	*3.6*

substantive skills/ knowledge (15 references), *time management* (13 references) and *learning techniques* (13 references, including "how to learn," "research and resource skills" and "note-taking"). Twelve individuals mentioned *work habits/ skills* (including "self discipline/ working independently," learning to "work hard," "accuracy," "persistence" and "patience") and *developing a broader perspective* (including "interdisciplinary knowledge," gaining a "liberal arts education" and developing a more "global or broad perspective"). Finally, four references were made to *creativity*, three to *general skills* and two to *computer skills*.

A closer look at the category *analytical/ reasoning skills* reveals that, on average, responses were fairly well distributed between graduates from Business (6 responses or 0.75/person), Arts (7 responses or 0.7/person) and Science (7 responses or 0.53/person). The most frequently cited skill items in this category were "analytical skills" (8 references, or 22 percent of participants) followed by "problem-solving skills" (7 references, or 19 percent), "thinking skills" (4 references, or 11 percent) and "critiquing" (1 reference). The following two quotations provide examples of references to problem-solving and analytical skills, the first from a Business graduate, and the second quotation from a Science graduate.

Jeff:
So I'm asking what types of things did you learn or what types of abilities did you develop that are relevant to jobs or the workplace?
Bill:
Um- yeah- that it would be <those> a repetition of that <yeah> and saying that um- one of the big things is problem-solving. I've seen people who- and I don't know if it's me personally or my training, I can't really account for it. But I've seen people who might not have- um- a degree or something- I was a- I'm I'm a real booster for university education but <yeah> um- who uh- approach a task um- in not as a- a- you know- um like I guess multi-faceted <hm-hmm> way <hm-hmm> of-of approaching it. They're people that are sing- you know they'll see a task- they'll approach it one way and that might not- not be the best way. I think um- what what uh- the degree or my degree <hm-hmm> or my program did was let you look at- attack things from different angles. Like so often during our- during the course of our uh our work we would be <hm-hmm> presented with uh- you know- the topics were so wide-ranging that <yeah> you know within a sixty minute set of courses you were attacking uh you know uh Macro-Economics and then you were talking about uh financial responsibility and <right> accountability and then you'd go to your Psych...

Jeff:
Um- in your program what types of things did you learn or what types of abilities did you develop that might- might have been relevant for- might be relevant for the- workplace or for jobs?

Daniel:
Um- I guess just uh- a lot of a-analysis um- that'd be- yeah I guess in terms of the- this program I-I learned a lot of a-analysis skills. And I guess the general experience was more valuable than some of the specific stuff- just <hm-hmm>- exercising your mind on different problems and- and that <Ok> kind of a
Jeff:
Like a- like analysis skills- just give me a- just an example just?
Daniel:
Well just being able to- um- uh look at different uh- problems <hm-hmm> and um come up with solutions and that was just good practice in general. Like none of the problems- the problems were sort of- were somewhat theoretical compared to what you u-u-usually encounter in most real world <right> things. But um it was still a valuable exercise for your mind I guess <hm-hmm>- that way

Both individuals quoted above seem to value the way their programs enhanced their analytical and problem-solving skills. The first participant, Bill, valued the "multi-faceted" nature of the program. As well, he noted how the Business program addressed a wide range of problems, which was beneficial for enhancing problem-solving skills. The second participant, Daniel, notes that he valued the general education that was received in the Science program, and also how he valued the range of programs to which he was exposed.

These two quotations are fairly representative of other responses that noted how *analytical/ reasoning skills* were developed. If participants only volunteered minimal information on the skills they were citing, additional follow-up questions were asked sometimes in order to better understand how these skills were learned. An excerpt from an interview with an Arts graduate illustrates a response to such a follow-up question.

Jeff:
Ok and you say some of these- like critical thinking and how how to think, analytical, uh reasoning and things like that. How do you think you acquired these things in your program? How would, what was it about the?...
Melanie:
It's about um- interpreting information <Ok>.
Jeff:
Just but did you get that through?
Melanie:
It's about looking at a study critically
Jeff:
Yes, like did you get that through your courses or specific people or, was that?
Melanie:
Uh gee that's a tough one <yeah>- get that through my courses? I'd guess I'd have to say both <Ok Ok>. There were some, probably professors that maybe a bit more- you have to write questions

<Ok>...My skills to think <yeah> critically <yeah and things like that>. I would say um- I mean the first thing that comes to mind is is uh, is having assignments where I had to interpret data <Ok>, and and give alternate explanations for findings and uh be critical of the methodology in the study, that sort of thing.

Along with this Arts graduate, several other interview participants remarked that analytical skills were developed in their program through assignments and writing papers. It is interesting to note that Business, Arts and Science graduates each provided almost the same number of references to *analytical/ reasoning skills*, (2 or 3 references) while Education graduates made no reference to learning these skills. This could be because of the fact that almost all of the Education graduates had desired to be public school teachers, and therefore may have looked to their programs to provide more practical job-related knowledge.

A closer look at participants' references to *social/ interpersonal skills* reveals that on average, Business graduates cited these skills most often (7 times or 0.88/person), followed by Science graduates (7 references or 0.54/person), Arts graduates (4 times or 0.40/person) and Education graduates (2 times or 0.33/person). Within this category, about one-quarter of participants (9 people) cited "working with people," followed by "team-work skills" and "understanding people" (5 graduates, or 13 percent each). Business graduates cited working with other people, and working in groups and team settings (6 references) more often than Science graduates (4 references), as well as Arts and Education graduates (2 references each). Compared to the other three faculties, fewer Arts graduates mentioned that they developed team-work or group-work skills. The focus on "team-work" which was cited more often by Business graduates might be explained by the fact that students in this faculty are typically involved in group projects in their studies. Here is one example from an interview with a Business graduate that reflects a positive assessment of team-work skills.

Jeff:
Um now thinking about your program now, what types of things did you learn or what types of abilities did you develop that are relevant to jobs or the workplace?
Pamela:
Well going back to that team um <hm-hmm> the team concept, that was probably the thing that stands out most in my mind is uh being able to uh complete projects in a team environment <Ok>.
Jeff:

And what now were you doing, you know um, kind of major projects in your courses that you would be put in a team or a group?
Pamela:
That's right, basically as a group you had to complete the project and so then uh there there's a division of tasks, and making sure that you you concentrate on your your task and uh of course bringing pulling it out, then the team of course has to pull it all together. Um <right> and uh of course that is what happens in the real world so.

Communication skills comprised the next most frequently cited set of responses, with nineteen references provided by participants. These responses were fairly equally distributed across programs. Within this category, "writing skills" and "writing papers" together were the most frequently cited skills (8 references, or 22 percent of graduates each), followed by "speaking skills" (3 references, or 8 percent) and "presenting" (2 references, or 5 percent).

Time-management skills and *learning techniques* comprise the next most frequently cited skill types with thirteen references each. In the latter, one in five participants mentioned "learning how to learn" (22 percent or 8 graduates), while eleven percent of graduates mentioned "research/ resource skills" (4 individuals). "Note-taking" was mentioned once. Both Business and Arts graduates were more likely to mention various learning techniques that were developed at university (5 references each) compared to Science graduates (2 references) and Education graduates (1 reference). More specifically, both Business (4 references) and Arts graduates (3 references) mentioned "learning how to learn" more frequently than did Science (1 reference) or Education graduates (0 references). Since forty-one percent of all Business and Arts graduates cited this skill, it is apparent that *learning techniques* have been of value to them. The types of jobs that both Business and Arts graduates had as of 1997 (see Chapter 4) may have required that they draw upon this skill.

The next most frequently cited skill types were *work habits/ skills* and *developing a broader perspective,* with twelve citations each. What is notable here is that, on average, Science graduates were more likely to provide responses in each of these categories. More specifically, with respect to *work habits/ skills*, Science graduates (4 individuals) were more likely to state that their "self-discipline" had been enhanced. The only other reference to "self-discipline" was from one Arts graduate. As well, with respect to *developing a broader perspective,* Science graduates were more likely to indicate that they had gained a "broader or more global perspective" by going through their program (5 Science, 2 Arts, 1 Business, and 1 Education graduate). This finding is interesting, since it might be expected that Arts graduates would have been more likely to say that they had developed a broader or more global perspective.

The last three types of skills that individuals mentioned that they developed were *creativity* (4 references), *general skills* (3 references), and *computer skills* (2 references). Altogether, only a few participants actually mentioned these skill types (a total of nine references throughout the thirty-seven interviews). This is not to say that they are not significant. For example, two individuals did mention creativity prior to mentioning any other skill that they learned. It is interesting that only two individuals, both Business graduates, cited "computer skills" as having been developed at university. However, it must be remembered that all of these individuals attended university in the latter half of the 1980s. At that time, the emphasis on general computer skills would not have been as pervasive in the academic and work world as it has become in the 1990s.

Table 9 illustrates the rank order in which 1997 participants cited all references to skills provided in the interviews (133 references). The rank ordering provides a method for examining how participants may have prioritized the employment skills they developed at university. Participants mentioned up to seven different skills that they developed at university. However, only a small portion of individuals provided more than four responses. In this section, I will discuss the skills in this rank ordering as response 1st through 7th.

Perhaps not surprisingly, Table 9 reveals that the four most frequently cited skill types overall (i.e., *analytical/ reasoning, social/ interpersonal, communication skills, and substantive skills/ knowledge,* according to Table 8) were also most often mentioned as 1st, 2nd, 3rd or 4th responses. The category *analytical/ reasoning skills* was clearly cited most often as a 1st response (9 references, compared to 6 references for *substantive skills/ knowledge,* and *learning techniques*). Along with the fact that participants cited *analytical/ reasoning skills* most often overall, this finding suggests that graduates clearly valued this skill type. In fact, almost all references made to *analytical/ reasoning skills* (18 of 20) were provided as 1st, 2nd, or 3rd responses, suggesting it was a valued skill, or at least

Table 9
Rank Order of Participants' References to Skills Made During Interviews

Skill Category	1st Response	2nd Response	3rd Response	4th Response	5th Response	6th Response	7th Response	Totals
Analytical/ Reasoning	9	5	4	1	0	1	0	20
Social/ Interpersonal	4	5	6	3	0	1	1	20
Communication	2	6	4	5	1	1	0	19
Substantive Knowledge	6	3	3	3	0	0	0	15
Time Management	0	5	2	2	4	0	0	13
Learning Techniques	6	4	1	1	1	0	0	13
Work Habits/ Skills	5	4	1	2	0	0	0	12
Broader Perspective	2	1	3	2	3	1	0	12
Creativity	2	0	2	0	0	0	0	4
General Skills	0	0	0	1	2	0	0	3
Computer	0	0	0	0	0	2	0	2
Total	**36**	**33**	**26**	**20**	**11**	**6**	**1**	**133**

one which participants were able to identify and articulate. On the other hand, the next two most frequently cited skill types, *social/ interpersonal skills* and *communication skills,* were not mentioned as 1st responses nearly as often (4 times and 2 times respectively). As well, the distribution of responses for these two skill types largely extended over the first four responses provided, as opposed to *analytical/ reasoning skills* which mainly extended over the first three responses.

Another interesting observation is that *time management* was not cited as a 1st response at all, but was mentioned as a 2nd response a total of five times, and as a 5th response four times. This suggests that while *time management* (or organizational skills) was something that was important for participants to have learned, it was not a skill type that was most prominent in their minds, compared to the other skills mentioned. While *learning techniques* matched *time management* as the fifth most frequently cited skill type overall (13 references), it was provided as a 1st response a total of six times, and a 2nd response a total of four times. Additionally, while *work habits/ skills* was tied as the sixth most frequently cited skill type overall (12 references), it was mentioned as a 1st response five times, and a 2nd response four times. Thus, for some participants, the development of these two skill types may have been particularly important in their jobs since graduating. In fact, both *learning techniques* and *work habits/ skills* were mentioned as a 1st response more often than either *social/ interpersonal* or *communication skills*, which were the second and third most frequently cited skill types. As well, while *creativity* was only cited four times throughout the interviews, it was mentioned as a 1st response twice, and a 3rd response twice, suggesting it was highly pertinent for at least a few individuals.

As outlined in Chapter 2, over the latter half of the twentieth century, researchers of higher education have examined the impact of the university experience on individuals (Feldman and Newcomb, 1969; Astin, 1994). This research literature can assist us in interpreting the findings presented here. For example, other research has shown that while the academic experience is fundamental to students' overall experiences, additional experiences beyond the confines of the classroom may be influential. While this study focused on employment skills developed in the academic setting, an attempt was also made to consider how individuals may have developed employment skills in other contexts at university. Considering this, 1997 interview participants were asked: *"What types of things did you learn at university outside of your program, that are relevant to jobs or the workplace?"* (Question 3c).

When first asked this question, many participants hesitated for a short period of time before responding. Compared to other questions in the interview schedule, many participants seemed to have difficulty describing what they might have learned outside of the classroom that would be relevant to the workplace. In these instances, I would usually ask a follow-up question, such as whether the individual had been involved in any campus activities. This was done in order to provide an example to participants of how they might have developed skills outside of their programs. Overall, fourteen people mentioned they had been involved in some type of extra-curricular activity during their undergraduate programs, and another fourteen people said they had not.

A significant number of participants (58 percent, or 19 of 33) indicated that they had learned "social skills" while on campus. This was clearly the most frequently cited response. Some of these people said that they developed social skills through networking with people, meeting friends, and generally by interacting with people on campus. In some respects, it seemed as though graduates mentioned that they had learned social skills if they had difficulty responding to the question. Nevertheless, I believe that participants' responses were legitimate by virtue of the fact that they were able to provide examples of how they had learned these skills. Here is an example of this type of response from an interview with a Business graduate.

Jeff:
What types of things did you learn at university outside of your program- outside of the classroom that would be relevant to jobs or the workplace?
Dave:
Oh I just think the interaction with a different number of people <yeah>. Um you get a very diverse group and there's 30,000 people here and not just people within your faculty but people outside the faculty. So it's on a social- I guess a social basis um there's definitely that interaction <just being on campus>. Just being on campus was a great thing I can remember that.

Besides this finding, another five individuals (14 percent) said that they had learned various "life-skills" at university, such as learning how to take responsibility for one's education, or developing a sense of independence. Four participants (11 percent) said that their general work ethic had improved while at university. Three individuals (8 percent) who had been involved in campus activities mentioned that they had learned leadership skills, while another two had learned some organizational/ managerial skills while being involved in campus activities. A couple of individuals also indicated that they had developed time management skills and how to be a part of a "large bureaucracy" while at university. Besides these responses, six people (16 percent) said that they had learned "nothing" outside of their programs that would be relevant to the workplace.

There was no difference between the number of skill items participants mentioned, according to whether or not they had been involved in extra-curricular activities. However, people who had been involved in these activities did mention a few different skill types that they had developed at university, such as leadership skills and organizational skills.

Once again, the most significant finding was that fifty-eight percent of participants said they had developed their "social skills" while at university. Along with the number of other references to social skills that individuals mentioned in the interviews, this suggests that they viewed this skill type as a reasonably prominent feature of the university experience and one which they perceive as having value in the workplace.

b) *Assessments of Communication and Reasoning Skills*

Several interview participants were also asked more direct questions about the development of their *communication* and *reasoning skills,* in part because the ESWS sample members had been asked questions about the development of these skill types in the 1989 and 1992 questionnaires. This section will examine these findings from 1989, 1992 and 1997, and make some general over time comparisons. It is also important to examine these skill types since they are among those which have been included in other survey questionnaires, which have attempted to measure skill development among university students. For example, the National Graduates Survey has included similar skill types in recent versions of their survey. Additionally, other groups such as the Conference Board of Canada (in their *Employability Skills Profile*) have focused on both communication and thinking skills, among others, as skills which employers are seeking.

i. 1989/1992 Findings

Communication Skills

Beginning in 1989, the ESWS questionnaires included questions which asked students/ graduates to evaluate the extent to which their university education had improved their communication skills[1]. A large majority of respondents (87 percent, or 106 of 122 individuals) either "strongly agreed" (45 percent) or "agreed" (42 percent) that their communication skills had been improved. Only two percent of respondents either "disagreed" or "strongly disagreed." Three years later, in 1992, nearly the same results were found, as 86 percent of the sample either "strongly agreed" (44 percent) or "agreed" (42 percent), while less than 1 percent "disagreed."

Cross-tabulation analysis reveals that about half of all sample members (47 percent) answered identically in both 1989 and 1992 (Table 10). Beyond this, there was some variation in how the rest of the sample responded over time. For example, about 28 percent of the sample responded slightly less favourably to this question in 1992 (compared to 1989), while 25 percent responded slightly more favourably in 1992. Most over time changes constituted only a one-point variation on the five-point Likert scale.

Generally, what is revealed by these findings is that between 1989 and 1992 a large majority of respondents remained positive about whether their university education had improved their communication skills. A closer look at these findings via cross-tabulation analysis reveals a slight waning of the strength of the positive responses toward improved communication skills between 1989 and 1992. However, this might be expected since a very high evaluation of improved communication skills was expressed in 1989. Thus, at an aggregate level, changes over time may be seen as a tendency for sample members' responses to shift towards the mean response.

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[1] Respondents were asked to evaluate the statement, *"my education has improved my communication skills"* on a scale of "strongly disagree" (1) to "strongly agree" (5).

Table 10

1989 and 1992 ESWS Results to the Question,
"My Education has Improved my Communication Skills."

		1992						
	Row Percent *Total Percent*	Strongly Disagree 1	2	Neutral 3	4	Strongly Agree 5	Row Total	N
	Strongly Disagree (1)	-	-	**100** *0.8*	-	-	0.8	1
	2	-	-	**50** *0.8*	**50** *0.8*	-	1.6	2
1989	Neutral 3	-	**7.7** *0.8*	**7.7** *0.8*	**38.5** *4.1*	**46.2** *4.9*	10.7	13
	4	-	-	**17.6** *7.4*	**49** *20.5*	**33.3** *13.9*	41.8	51
	Strongly Agree (5)	-	-	**7.3** *3.3*	**36.4** *16.4*	**56.4** *25.4*	45.1	55
	Column Total	0	0.8	13.1	41.8	44.3	100	122

Table 11

1989 and 1992 ESWS Results to the Question,
"My Education has Improved my Reasoning Skills."

		1992						
	Row Percent *Total Percent*	Strongly Disagree 1	2	Neutral 3	4	Strongly Agree 5	Row Total	N
1989	Strongly Disagree (1)	-	-	**100** *0.8*	-	-	0.8	1
	2	-	-	**100** *0.8*	-	-	0.8	1
	Neutral 3	-	-	**25.0** *2.5*	**58.3** *5.7*	**16.7** *1.6*	9.8	12
	4	-	-	**8.5** *4.1*	**62.7** *30.3*	**28.8** *13.9*	48.4	59
	Strongly Agree (5)	-	-	**8.2** *3.3*	**30.6** *12.3*	**61.2** *24.6*	40.2	49
	Column Total	0	0	11.5	48.4	40.2	100	122

Reasoning Skills

In both 1989 and 1992, ESWS respondents were also asked to evaluate the degree to which their university education had improved their reasoning skills[2]. In 1989, a large majority, or 88 percent of respondents either or "agreed" (48 percent) or "strongly agreed" (40 percent). Less than two percent of sample members either "disagreed" or "strongly disagreed." In 1992, when asked to evaluate the same question, once again, 88 percent either "agreed" (48 percent) or "strongly agreed" (40 percent).

Cross-tabulation analysis reveals that 57 percent of respondents answered this question identically in both years (Table 11). This includes one-quarter of the sample (25 percent) which "strongly agreed" in both years, and 30 percent that "agreed" in both years. Additionally, 23 percent of sample members provided a slightly higher rating of improved reasoning skills in 1992, while 20 percent provided a slightly lower rating in 1992. As with the question on communication skills, most over time changes reflected only a one-point difference on the five-point Likert scale.

Therefore, a large majority of respondents were positive in their assessments regarding the degree to which their university education had improved their reasoning skills in both 1989 and 1992. This is not to suggest that individuals responded the same in both years as shown by the fact that 43 percent of sample members responded slightly differently in 1992. Over time, there was a slight increase (3 percent) in sentiment toward improved reasoning skills. This differs only slightly from respondents' ratings of communication skills where there was a slight decrease in ratings (3 percent) over time.

ii. 1997 Findings

In 1997, interviews participants were similarly asked to evaluate the development of their *"thinking/ reasoning skills,"* and *"communication skills"* (i.e., "general communication," "writing" and "presenting"). Table 12 reveals how many participants were asked to assess these different skills throughout the interviews[3]. During the coding process, as a way of further analyzing responses, I categorized responses on a five-point scale, ranging from "very bad" (1) to "very good" (5). I believe that the judgments I made about the categorization of these skill items on this constructed scale is reliable. In the majority of cases, responses were not overly strong in sentiment in either a positive (very good) or negative (very bad) direction. Instead, most responses were judged as being "good," "neutral" or "bad." For example, out of the 52 responses provided, (11 for *thinking/ reasoning skills* and a total of 41 for *communication skills*), only six were categorized as "very good" or "very bad." It was assumed that these two categories on the five-point scale would represent very strong positive or negative assessments of the skill items in question.

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[2] Respondents were asked to evaluate the statement, *"my education has improved my reasoning skills"* on a scale of "strongly disagree" (1) to "strongly agree" (5).

A closer look at *thinking/ reasoning skills* reveals that most 1997 interview participants indicated that their development of these skills was either "good" or "very good" (8 responses in total) while only two participants evaluated the development of this skill type as "bad." There was not much variation across faculties for these responses.

Assessments of *general communication skills* were almost evenly divided as participants provided six "good" responses and four "bad" responses. For *writing skills,* once again responses were also evenly divided as nine graduates provided either "good" or "very good" responses, and eight individuals assessed writing skills as "bad." However, one notable finding was that Science graduates were more likely to assess their writing skills as "bad" (5 responses) as compared to "good" (2 responses). For *presentation skills,* more respondents assessed this as "bad" (10 responses) than "good" (3 responses). Part of the reason may be that, once again, Science graduates clearly rated this skill type more negatively than other graduates. For example, all four Science graduates who were asked this question assessed the development of their presentation skills as "bad." Nevertheless, even without considering responses from Science graduates, six individuals from other faculties provided "bad" assessments of their presentation skills, while only three provided "good" assessments.

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[3] As shown in Table 12, not all individuals were asked to assess these skill items. Specifically, if participants had not already volunteered responses about these skill items, then in most cases a question about these skills was asked. However, initially this was not a planned question in the interview schedule, and in some cases participants were not asked to evaluate these skill items.

Table 12
Responses to Interviewer's Inquiries about Communication and Reasoning Skills

Skill /Ability	Business *(8 graduates)*	Arts *(10 graduates)*	Science *(13 graduates)*	Education *(6 graduates)*	Total # Times Mentioned
Thinking/ Reasoning					
-very good	1	0	1	0	2
-good	1	1	2	2	6
-neutral	0	0	0	1	1
-bad	0	1	1	0	2
-very bad	0	0	0	0	0
Total	**2**	**2**	**4**	**3**	**11**
General Communication					
-very good	0	0	0	0	0
-good	2	2	2	0	6
-neutral	0	0	0	0	0
-bad	0	2	2	0	4
-very bad	0	0	0	0	0
Sub-Total	**2**	**4**	**4**	**0**	**10**
Writing					
-very good	0	1	0	1	2
-good	2	2	2	1	7
-neutral	0	0	0	1	1
-bad	2	1	5	0	8
-very bad	0	0	0	0	0
Sub-Total	**4**	**4**	**7**	**3**	**18**
Presentation					
-very good	0	0	0	0	0
-good	2	1	0	0	3
-neutral	0	1	0	0	1
-bad	2	2	4	2	10
-very bad	0	0	0	0	0
Sub-Total	**4**	**4**	**4**	**2**	**14**
Communication Category (Summary)					
-very good	0	1	0	1	2
-good	5	5	4	1	16
-neutral	0	1	0	1	2
-bad	4	5	11	2	22
-very bad	0	0	0	0	0
Total	**9**	**12**	**15**	**5**	**42**

A composite *communication skills category* was created from all of the assessments that participants made for "general communication," "writing," and "presentation skills" in order to present participants' overall assessments of their communication skills (bottom panel of Table 12). While Business, Arts, and Education graduates were evenly split in how they assessed their communication skills, Science graduates were clearly more negative in their assessments. Overall, Science graduates provided eleven "bad" responses, and only four "good" responses. Here is an example of one Science graduate's assessment of her writing and presentation skills.

Jeff:
Ok so the writing, not necessarily something you really improved upon at university?
Chantel:
I don't think so no. <Ok>
Jeff:
Speaking?
Chantel:
Never had to
Jeff:
Presentations?
Chantel:
No never had to do any of that
Jeff:
Speaking in front of a group, never did that <no> at all <no>. Ok all right.
Chantel:
Wish I would have actually, but no, never had to.

iii. Comparisons Between and 1989/1992 and 1997 Findings

Despite the fact that exactly the same question wording regarding communication and reasoning skills was not utilized in the 1997 interviews, as in the 1989 and 1992 ESWS questionnaires, some general comparisons can still be made between these data sources. In the 1997 interview data, it is possible to draw upon the skill types which participants volunteered (responses to Question 3a, as outlined earlier in this chapter), as well as the specific questions directed at participants about communication and reasoning skills (as outlined in the previous section). Together, findings from the ESWS questionnaires and the 1997 interviews can inform us as to whether graduates' assessments of their communication and reasoning skills have changed over time.

Both the 1989 and 1992 ESWS data reveal that a large majority of all sample members agreed that their communication and reasoning skills had been developed at university. Specifically, more than 80 percent of respondents in both sample periods either "agreed" or "strongly agreed" that these skills had improved through their education. As well, among all skills which were volunteered by participants in the 1997 interviews as having been learned in their programs, *analytical/reasoning skills* were cited most frequently (along with *social/ interpersonal skills*), followed by *communication skills.* Thus, considering the fact that 1989 and 1992 sample members were very positive in how they rated both communication and reasoning skills, and that 1997 participants mentioned these skill types as much as, or more frequently than other skills, suggests that these skills had been developed through their university education.

However, as outlined earlier, some 1997 participants were also asked whether their communication or reasoning skills had been developed in their programs. Among those who were asked, eight individuals rated the development of *thinking/ reasoning skills* as "good" or "very good," while only two rated them as "bad." Thus, the evaluations of reasoning skills by these 1997 participants were at least consistent with the positive ratings provided by 1989/1992 sample members, and the more positive sentiments expressed about *analytical/ reasoning skills* by other 1997 participants. On the other hand, with respect to *communication skills,* recall that twenty-two interview participants rated them as "bad," while only seventeen individuals rated them as "good" or "very good." These ratings are not as consistent with the other more positive evaluations of communication skills, from both the 1989/1992 survey data and from other responses volunteered by 1997 participants. However, ten of the individuals who rated these communication skills negatively were specifically rating the development of their *presentation skills* as "bad" or "very bad." If only "general communication skills" are examined, then six individuals rated these positively, while four rated these negatively. These latter results are somewhat more in line with the other positive evaluations of communication skills.

While the wording of the questions which addressed communication and reasoning skills was not exactly the same over time, the types of responses provided by graduates were at least somewhat consistent. That is, aside from some specific negative ratings of "presentation skills" by 1997 respondents, most individuals in 1989, 1992 and 1997 assessed the development of their reasoning and communication skills positively. Furthermore, when 1997 interview participants were given the opportunity to volunteer *any* type of skill they learned at university which would be relevant to the workplace, both *analytical/ reasoning skills* and *communication skills* comprised two of the three most frequently mentioned skill types. Other findings on graduates' assessments of their skills from the 1997 National Graduates Survey reveal that a large majority of individuals also rated these skill types similarly. For example, eighty-four percent of 1995 NGS graduates (surveyed in 1997) rated their *writing skills* as "excellent" or "very good", and eighty-nine percent of these same graduates believed that these skills were developed "to a great extent" or "to some extent" through their education (Krahn and Bowlby, Forthcoming). As well, eighty-seven percent of 1995 NGS graduates rated their *thinking skills* as "excellent" or "very good," while ninety-two percent of them indicated that this skill type was developed through their education "to a great extent" or "to some extent." These findings are in line with the generally positive assessments that individuals in this study provided for communication and reasoning skills.

On the whole, findings from this study suggest that graduates were positive in their assessments of the degree to which their university education helped to develop their communication and reasoning skills. The most notable exception is that a number of individuals from all four faculties rated the development of their "presentation skills" poorly. Since groups like the Conference Board of Canada cite both communication and thinking skills as critical skills that employers are looking for today, the findings presented here suggest that universities appear to be doing a good job in providing their students with these skills.

c) *Importance of University for Skill Development*

Interview participants were also asked how important university was in terms of facilitating the development of the skill types that they had mentioned. Thirty-two of thirty-five participants (91 percent) indicated that university was either "very important" (19 individuals) or "important" (13 individuals) for the development of these skills. Most individuals did not hesitate at all when responding to this question. This suggests that they were quite certain about their assessments. Often participants' responses would lead to a more general type of evaluation of their university experience. Several quotations can illustrate this pattern, the first from a Business graduate, and the second from a Science graduate.

Jeff:
Now overall how important was university for you in terms of learning some these things or abilities that you've mentioned to me, just for you at in a personal sense?
Pamela:
Uh very important <very important?> Yeah <yeah> Yeah <Ok>. No I wouldn't say I'd be the same person if I'd just had the high school education.

Jeff:
Overall how important- you mentioned some of these abilities, accuracy and thought process- um looking at things in a broader sense- how important was university for you in terms of learning these things?
Ali:
Extremely important <extremely important?> Yeah <yeah>.

Jeff:
In terms of your own development?
Ali:
You see because I I started at a young- you know I don't know what would happen if you were gone into university at age 30. Then maybe by age 30 somebody's a bit more mature, but when I went to university out of high school <yes> I was just a kid <right>. So so that kind of changed your perspective- I'm a kid, going into the adult world <right> so it was very important <yeah>. I I was accurate you know things that I do, but I never thought beyond <yeah> what I'm doing, and this gives you that other perspective.

As suggested by these quotations, these graduates perceived university not only as formative for the development of skills at a academic level, but also at a personal level. It is interesting that Ali was underemployed at the time of the interview, and generally very dissatisfied with his employment experiences. In this respect, he did have some criticisms to make about his program, specifically that universities should offer a more practical dimension to their education. Nevertheless, despite his difficulty in finding satisfying work, he still spoke very highly about the skills that he developed at university and about his university education more generally.

d) *Skills That Should Have Been Learned*

Besides being asked to volunteer information about the types of employment skills that were developed at university, 1997 participants were also asked to indicate which skill areas the University or its programs were negligent at teaching or developing in their students. Specifically, this question read: *"Are there things you believe you should have learned at university which would have been useful for you in the workplace?"* (Question 10). Aside from responding to this question, participants often recalled additional things throughout the interviews that they believed they should have learned at university. These responses are also included in the findings discussed here. Altogether, graduates provided forty-eight references to various types of skills or abilities that they said should have been learned at university (Table 13). As with results for Question 3a, these references to learned skills were coded and organized into various skill types. The most frequently mentioned skills or abilities include: *practical skills* (23 references), *communication skills* (12 references), *social/ interpersonal skills* (7 references), *computer skills* (3 references), followed by *creativity, substantive skills and knowledge,* and *organizational skills* (1 reference each).

A closer look at references to *practical skills* reveals that, on average, Science graduates (10 references or 0.77/ person) along with Arts graduates (6 references or 0.75/ person) made the most references to this skill type, followed by Business graduates (5 references or 0.5/ person) and Education graduates (2 references or 0.33/ person). Individual references to *practical skills* can be distinguished from each other in terms of three categories: (1) a general need for more practical skills (15 references); (2) a need for job-related courses in university programs (6 references); and (3) a need for other practical-related courses in university programs (1 reference).

The first category (a general need for more practical skills) reflects comments made by participants that the education they received in their programs (or university more generally) lacked a practical dimension that would be relevant in the workplace. This information was presented in the previous chapter. Once again, Science graduates and Arts graduates made the most references to various practical skills that should have been learned. Here is one example from a Science graduate.

Table 13
Skills or Abilities Participants Mentioned They Should Have Learned at University

Skill /Ability	Business *(8 graduates)*	Arts *(10 graduates)*	Science *(13 graduates)*	Education *(6 graduates)*	Total # Times Mentioned
Practical					
-practical	3	2	8	2	15
-job-related course	1	4	2	0	7
-other pract. course	1	0	0	0	1
Sub-total	**5**	**6**	**10**	**2**	**23**
Mean	*0.5*	*0.6*	*0.77*	*0.3*	*0.62*
Communication					
-communication	1	0	3	1	5
-writing	1	1	0	0	2
-writing papers	0	0	1	0	1
-speak/present	2	1	1	0	4
Sub-total	**4**	**2**	**5**	**1**	**12**
Mean	*0.4*	*0.2*	*0.38*	*0.2*	*0.32*
Social/ Interpersonal					
-people skills	1	1	0	0	2
-group work	1	0	0	0	1
-leadership	1	0	0	0	1
-negotiating	1	0	0	0	1
-networking	1	1	0	0	2
Sub-total	**5**	**2**	**0**	**0**	**7**
Mean	*0.63*	*0.2*	*0*	*0*	*0.19*
Computer	1	2	0	0	3
Sub-total	**1**	**2**	**0**	**0**	**3**
Mean	*0.13*	*0.2*	*0*	*0*	*0.08*
Creativity	1	0	0	0	1
Sub-total	**1**	**0**	**0**	**0**	**1**
Mean	*0.13*	*0*	*0*	*0*	*0.13*
Substantive	0	0	0	1	1
Sub-total	**0**	**0**	**0**	**1**	**1**
Mean	*0*	*0*	*0*	*0.2*	*0.03*
Organizational	0	0	1	0	1
Sub-total	**0**	**0**	**1**	**0**	**1**
Mean	*0*	*0*	*0.08*	*0*	*0.03*
TOTAL	**16**	**12**	**16**	**4**	**48**
Mean	2	*1.2*	*1.2*	*0.7*	*1.3*
"Nothing"	3	4	3	0	10

Jeff:
Are there things you believe you should have learned at university which would have been useful for you in the workplace?
Krista:
Hm-hmm- um practical uh skills
Jeff:
Practical skills which you t- ?
Krista:
Practical skills yeah. You know just because um- uh I-if I can cite my example with Company X <hm-hmm> the res- the research company that I worked for <right>. Um, when I went in there I didn't know how to do anything <Ok>. Like what was an assay, what was you know uh how-how did you purify antibody antigens and all that. I had None of that type of skill <Ok>. Like it would be nice to have a course that sort of went into things like this you know, because uh all of a sudden you go in there and a NAIT graduate uh doing the Lab-Tech program <Ok>- um they all knew how to do all these things <Ok>. So it felt- it seemed like you know, I had a university degree, but I only knew of uh you know the theoretical side of things. I didn't know how to do any part of the job. Whereas they went in there, and they knew exactly what they were doing.

In many instances, participants did not actually identify specific practical skills that should have been learned. Instead, their comments generally revealed a perception that there was a need for a more practical orientation in the education provided in their programs. The references suggested that graduates were looking to acquire some specific skills and knowledge that could be utilized in specific jobs or in particular instances in their everyday life. Here is another example from a Business graduate.

Jeff:
Um we touched on this but I ask, are there things you believe you should have learned at university that would be relevant to the workplace? You touched on some of that practical
Shelley:
Yeah, just a more practical approach to how things are really done. You often hear it. You know "Why do we take that in high school?" It's not, who needs to know math 30 when you're out in the trenches? <yeah, yeah> But it's the same for university. I mean they don't teach you how to balance a cheque book and they don't teach you one thing about a mortgage <hm-hmm> and you take just a minute - I mean if you don't take a finance course, you still don't know what a mutual fund is. <right> And that's so important, I mean you just don't learn what's important in everyday life.

Besides references to practical skills or knowledge which should have been learned at university, eight individuals (22 percent) mentioned that what was needed was some type of practical or job-related course in their programs. These are not necessarily specific skills, but reflect the fact that skills useful for the workplace could have been learned in such a course. Here is an example of this type of comment from an Arts graduate.

Jeff:
So a practicum might have been useful?
Janet:
Yeah- a practicum <or?>- uh a once-a-month meeting <Ok>- you know let's talk about this- let's do a forum <Ok>. A seminar- even a seminar where you're mandatory to do this seminar- and meet different people <right> that are out in the workforce- they come in and do a discussion <right>- You go "Oh- you know I want to follow that further"-or <yeah>. Information is what they really require, cause in psychology I felt like they just sort of pushed you out there <hm-hmm>- "Here's your courses, you do this and get out" <yeah> and that was about it <yeah>. And that's disappointing. You know in business I found that from the people I've talked with <yeah>- there's a lot more interaction <Ok> with the people so.

Related to this, six individuals indicated that they would have welcomed the opportunity to take part in a co-op or work experience program at university. Once again, this does not signify a specific skill that individuals said they should have learned but rather one of the mechanisms they noted for possibly learning practical skills. In fact, this finding constitutes a minor theme from the interviews as nine individuals altogether (24 percent, including 3 Business, 2 Arts, 2 Science and 2 Education graduates) said that they thought co-op or work experience programs were something that they or other students could benefit from at university. Here are some examples that illustrate this theme.

Jeff:
Are there things you believe you should have learned at university that would have been relevant to the workplace, looking back? <um> In a science program?
Ali:
Yeah probably, how how to integrate into the workforce. Because really university world is totally different than the workplace is. Once you're into a work, a workforce it's a total different world, total different rules, office rules, uh regulations, how to ?? so <hm-hmm>.
Jeff:
How do you, how might, how could they improve on that?
Ali:
By uh, for example the co-op programs <hm-hmm>. Or somehow maybe maybe integrating, you know if what they would of done, is said look you do 2 years in your science faculty, but then when you take your labs or whatever you actually get it with a company <right>. So now you're not doing the lab in in university under the professor <right> you're actually working in a company so you see the difference <right>, it's a different kind of atmosphere <Ok>. So that when you finish you know what it's like to work with a big company, work around the people <right>. Um the pressure of the company with that

Jeff:
Any any negative points that stand out for you?
Pamela:
Um not that I really can think of at this moment <Ok> Um <Ok> no I mean I I guess if if there was some way that they could um bring some sort of um practicum in along with it um you know that would be beneficial, having a little bit more involvement with the outside uh environment <Ok> outside business world yeah

It might be surmised that those who indicated a need for co-op programs at university could have been those individuals who had a particularly difficult time in looking for work after graduating. However, looking at the responses that these nine individuals provided reveals that they were not necessarily any more likely to have had a difficult time in looking for work. However, six of these nine people did provide other responses throughout the course of the interviews regarding a need for a more practical dimension to their university education.

Once again, the findings outlined thus far in this section reveal that a need for practical skills was a reasonably prominent theme in the interviews. Besides *practical skills*, the next most frequently cited response regarding employment skills that *should* have been learned was *communication skills*. Within this category, there were five references made to "general communication skills," four references to "presenting" and "speaking," and three references to "writing" and "writing papers." Science graduates (5 references) and Business graduates (4 references) provided the most references to *communication skills*. This finding for Science graduates fits with the fact that these individuals were also more likely to have rated their *communication skills* poorly (as outlined in Table 12). Arts and Education graduates cited general *communication skills* as something that should have been learned less frequently.

Social/ interpersonal skills (7 references) comprised the next most frequently cited skill type that participants said should have been learned in their programs. The majority of these comments came from Business graduates (5 of 7 responses) with two from Arts graduates. However, as outlined earlier in this chapter, compared to other graduates, Business graduates were also more likely to indicate that *social/interpersonal skills* were something that *had* been learned in their programs. This suggests that Business graduates view this skill type as something which has been particularly salient in their employment experiences since graduating. More specifically, while Business graduates typically recognized *social/ interpersonal skills* as something they had learned, some graduates from this faculty desired even greater development of these particular skills. It is interesting that no Science or Education graduates mentioned *social/ interpersonal skills* as something that should have been learned in their programs. However, Science graduates were quite likely to indicate that they did develop these skills in their programs. Thus, Science graduates may have been reasonably content with the development of *social/ interpersonal skills*, or did not have high expectations for these particular skills.

3. Skills and the University-Labour Market Relationship

After identifying skills learned in their programs, 1997 participants were asked to evaluate, at a more general level, the types of skills that universities teach to students. The question which addressed this was: *"Do you think there should be an effort made in universities to teach more specific job-related skills to students, instead of general or basic types of skills?"* (Question 6b). The goal was to determine whether graduates believed there should be a greater link between universities and the labour market in terms of what students learn in their programs. At a broader level, this question addresses a tendency by some critics to look at university education specifically for its vocational training capabilities.

Just over half of the graduates (52 percent, or 17 of 33 participants; including 6 Science, 5 Arts, 3 Education, and 3 Business graduates) said "no," there should *not* be an effort made to teach more specific skills at university. Eight of these seventeen individuals believed that university education was adequate in this respect, including three people who said that the type of "general education" provided at university was more useful. Besides this, six individuals raised the point that universities were fundamentally different from other types of post-secondary institutions such as community colleges and technical schools, and should not be focusing their energies on teaching specific vocational skills like these other institutions. I will elaborate on these references to "community colleges and technical institutes" in more detail at the end of this section, as they represent a notable theme that was found in the interviews.

In contrast, ten graduates (30 percent, including 4 Science, 3 Business, 2 Education and 1 Arts graduate) remarked that universities *should* be teaching more specific job-related skills. The following example illustrates this perspective, as stated by a Science graduate.

Jeff:
Do you think there should be an effort, just extending on this a bit more, an effort made in universities to teach more specific job related skills…instead of general types of skills?
Ali
Yes…And I mean I've seen this, even in a lot of uh programs that you take in pharmacy for example, that you take. They actually have a course how to teach you how to run a business, because realistically you're gonna come out of there with a pharmacy, you're gonna have to go and run your own business <right>. So what do you know about running a business? <right>...
Jeff:
And can you see that, like beyond that program in a more general sense, even for you in the program you took? You think you should have learned some more specific job related skills
Ali:
Yeah
Jeff:
Like you were saying, integrating with the workforce.
Ali:
How how how to to fit into the workforce. I mean the knowledge is one thing, but how to make a go at it is another thing... But university doesn't teach you how to do that <hm-hmm> -you go there and they don't teach you how to know that stuff

Overall, there was agreement among these ten individuals that some change was needed by universities in terms of teaching more specific skills. While not a lot of these "specific skills" were actually mentioned, many of these individuals (like the Science graduate quoted above) did reply that they were in favour of seeing more "practical," job-related skills being taught in universities.

Six additional individuals (18 percent) responded "yes and no." While their responses revealed that they agreed that some change was needed, they also suggested that this should not completely alter the more general type of education currently being offered at universities. Still, when added to the individuals mentioned above, sixteen of thirty-three individuals (48 percent) believed that, at least to some extent, universities should teach more specific skills to their students.

This finding fits with other comments made throughout the interviews about programs lacking a practical dimension. For example, twelve of these sixteen individuals (75 percent) also believed that universities lacked a practical dimension. On the other hand, only six of the seventeen individuals (35 percent) who said that universities should *not* be teaching specific skills, said that universities lacked a practical dimension. What this suggests is that between one-quarter to one-third of all participants (9-12 individuals) believed that universities should be teaching more specific job-oriented skills and abilities to their students[4]. Put another way, between nine and twelve of the nineteen people who indicated that their programs lacked a practical dimension also indicated that universities should be teaching more specific skills. This is important because it suggests that, among the nineteen individuals who favoured the idea that universities should offer a more practical employment-oriented education, a number of these individuals (between 7-10 individuals) still did value the type of general skills that are currently taught in university programs[5].

Theme # 3: References to Community Colleges/ Technical Schools

As noted earlier, several 1997 participants provided comments that contrasted "community colleges" or "technical schools" with universities. Taken together, these comments comprise a notable theme in the interviews and warrant a separate discussion.

Six of the seventeen individuals (35 percent) who were *not* in favour of universities teaching more specific skills also noted that universities were fundamentally different from colleges. To illustrate this theme, here are a couple of relatively typical responses, the first from an Arts graduate, and the second from a Science graduate.

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[4] While twelve individuals agreed that specific skills should be taught at university, and also specified throughout the interviews that their programs lacked a practical dimension, three of these twelve individuals were among those who responded "yes and no" to the question about universities teaching general or specific skills. This creates the range of 9-12 individuals as noted here.

[5] These findings are similar to those of other "exit surveys" of Alberta graduates. For example, although the question wording and response categories varied, findings from the 1993 and 1994 University of Alberta Graduand Surveys reveal that a majority of graduates (70 percent) believed that providing both a general education and training students for specific jobs were equally important goals for universities. In comparison, findings from the current study found that just over half of 1997 interview participants were in favour of having universities teach more general skills, while just under half said that universities should focus on teaching specific job-related skills. These findings suggest

Jeff:
Do you think there should be more of an effort in universities to teach more specific job-related skills instead of general or basic types of skills?
Ken:
Umm- No I don't think that's the role of university <No?> No. I think that's more the job of NAIT <yeah>. I mean that's-that's what I think <Ok> You know- that's my opinion but-

Jeff:
Do you think universities, or there should be more of an effort in universities to teach more specific job related skills instead of generally basic types of skills?
Blain:
No, I don't think so. <no?> No <Ok>. I mean NAIT does that kind of thing. I mean NAIT pumps out for certain jobs but of course <hm-hmm>
Jeff:
So you see a differentiation between the education you get at NAIT and the universities?
Blain:
Oh, yeah. For sure. I had a few friends who went there. I mean they had no trouble but I mean their program basically was geared for a certain job and <hm-hmm> that's basically what they got. And they knew what they're gonna basically get paid. I mean I think at university, if you do what the university longer and as you require more education probably are gonna have a better paying job I would say in the long run <right> But <yeah> I think NAIT is pretty well too. <hm-hmm> I have a few friends who went there and they've all got pretty good - I mean they're never gonna be super rich but they're doin <right> fine. <yeah> They've got jobs and they're working so what the heck.

These comments suggest that universities have a different role to play, compared to other types of post-secondary institutions, in terms of the types of skills that students learn or develop. These six participants suggested that other types of post-secondary institutions already focus their efforts on teaching more specific skills. It is interesting to note my question did not mention community colleges or technical institutes. In fact, no questions in the interview schedule were designed to address the fundamental differences that exist between universities and other post-secondary institutions. In the large majority of cases, it was the participants themselves who volunteered information about community colleges or technical schools, without being prompted by my questions. Once the topic was raised by participants, I would sometimes follow-up with a probing question. This is illustrated in the second quotation directly above.

In addition to specific responses to Question 6b, other comments were provided by participants about community colleges and technical schools throughout the interviews. These

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that Alberta graduates value both general and specific skills being taught at universities.

comments are summarized and presented here, although some pertain to other topics discussed earlier in the previous two chapters. Altogether, twenty-two participants (59 percent) provided comments about community colleges or technical schools. Almost all made some type of general distinction between university education and a college/ technical school education. Here is another example from an Arts graduate.

Jeff:
You-you made a distinction before just once again between NAIT and university. Do you see university students having an advantage in terms of some of those- what you called transferable skills or? <hmm> Is there an advantage to going university versus a more specific job-oriented- into a specific job-oriented program?
Darren:
Hmm. I don't know if there's an advantage. I think that both NAIT and university f-fill separate roles <Ok>. Like I think that- I think there's- like people try to mix the two together and I really don't think you can <hm-hmm>. Like I think both-both serve a purpose <hm-hmm>. Like I said- there's, you know trades and things like that. And then there's also, you know on the opposite side of the spectrum, there's more academic pursuits. I think that both fill like separate needs in the <hm-hmm> economy.

This Arts graduate is supportive of the functional differences that exist between universities and technical schools, and believes that each "fills separate roles." At least ten other individuals (11 of 22 in total) noted that differences exist between the two types of academic institutions in terms of the type of education that is offered, and were generally supportive of these differences.

Eight participants (22 percent overall) stated that there were benefits to the type of education offered at colleges/ technical schools because these institutions were more oriented to job training. The following quotations from an Education and a Business graduate reflect this sentiment.

Jeff:
Overall how important was university for you in terms of learning some of the things or abilities that you did, in terms of your own development, in terms of education?
Tara:
Oh I thought it was a, a really good experience <yeah> definitely yeah. <yeah> Yeah. Some- it yeah, although I've often said before, that if they offered Education at NAIT it would be a better place to take it [she laughs]
Jeff:
Really?
Tara:
Yeah- just more practical types of things, we I don't know- sometimes we did things that just were

totally irrelevant to what I'm doing now <Ok>. Although, I suppose if I wanted to do something else, it'd be better I guess.

Vic:
...I am not saying that should be NAIT although I'll hire NAIT graduates more than university graduates [he laughs] <yeah>. But I think there has to be some recognition that most of these people want to get employed and their employers like them to have certain skills <hm-hmm> and I think those are two of the ways supposed to be developed <Ok> in case studies and having somebody else involved <right>.
Jeff:
What do you get at NAIT? What do you think you get at NAIT -would get there? <Ok>
Vic:
At NAIT I believe there's a more practical orientation to <hm-hmm> studies so when I have hired someone out of NAIT, I feel I can put them to work the next day <yeah> whereas someone from university maybe has developed very good learning skills and thinking skills <Ok> but the practical sides- in accounting language the debits and credits- [both laughed] are pretty weak so- so that's what I notice.

Both of these individuals expressed some positive comments about colleges or technical schools. For example, Tara notes that she would have gone to NAIT if her Education program had been offered there. Vic also suggests that he values the practical orientation of the education offered at these institutions.

However, these comments can be compared to some of the other comments made by the same individuals elsewhere in the interviews. Both participants indicated at other points that they did not have any regrets about their educational choices. As well, Tara notes that "if I wanted to do something else, it'd be better I guess" (to go to university), which suggests that she believes universities are useful for some types of learning pursuits. And while Vic notes that a community college education has a "more practical orientation," he also mentions that university students develop good thinking and learning skills. Thus, despite their apparent approval of the practical orientation of colleges and technical schools, these two individuals do not completely reject the type of education that was offered in their university programs.

Nevertheless, some additional positive comments were made about colleges and technical schools. Three people noted that one of the benefits of these other types of institutions is that the classes are smaller, while two people noted that the teaching at colleges is very good. As well, in addition to Tara's comments (quoted above), two additional interview participants remarked that, if they had the opportunity again, they would have attended college for a couple of years prior to attending university.

On the other hand, some participants noted positive qualities of universities, when making comparisons between types of post-secondary institutions. For example, four individuals stated that the broader type of education that one receives at universities is beneficial, compared to the narrower approach provided by colleges. Other types of positive comments made about universities included the following from a Business graduate.

> Bill:
> ...Yeah now- now I think- I've and I said this- this is- it's you know- this is not a sprint it's it's a marathon <yeah>. And I think uh- you know it's slow at it's- you know we-we come out of the gates a little bit slower I think- uh as university graduates. Um- uh- but I think you're- you're better off in the end. I know that- I know that somebody with a two-year technical- I know I'm really slighting technical backgrounds- they're very valuable. But I think that's where this- there's a lot of argument between universities and NAIT so- I'm <yeah> I'm assuming your research you [he laughs slightly]. Um but I think uh- they- we come out of the gates very slow um- but let's conduct this again in ten years and see what I'm <yeah> doing then. Managerial positions <yeah>- I think I could take on a managerial position before <hm-hmm> somebody who's taken my stream- or not taken my stream

While Bill was particularly positive about the education he received at university, there were at least three other graduates who also noted that university students are probably better off in the long run by virtue of the education they receive.

Some additional comparisons that participants made between universities and colleges/ technical schools specifically addressed the types of skills taught at each. For example, nine individuals (24 percent overall) remarked that the skills taught at colleges and technical schools are more "practical," "hands on" and "specific" than the skills taught at university. However, only two of these nine participants believed that the skills that community college or technical students learned or developed were necessarily more beneficial. Most of the other seven individuals acknowledged that differences do exist, but that this simply reflected the different orientations of these institutions.

Additionally, when making a distinction between these types of post-secondary institutions, some individuals (5 people) noted that, whereas universities focused on "theories," community colleges or technical schools oriented their education to "specific jobs" (4 people). Such references about the theoretical focus at university and the type of "general education" offered constitute additional minor themes in the interviews.

Overall, while twenty-two participants (59 percent) made specific comments about community colleges or technical schools, less than half of these offered particularly positive comments about them. Most individuals simply remarked that universities and colleges have a fundamentally different academic orientation. As well, of those who did make positive comments about colleges or technical schools, no one completely rejected the idea of a university education. A minority of individuals valued the practical orientation of the education offered at these other post-secondary institutions. This is noteworthy since a number of participants also cited the lack of a "practical" dimension as a weakness of their university programs. As well, about one-fifth of all graduates believed that community colleges or technical schools were beneficial because their programs were more oriented to specific jobs. Finally, as noted, one interesting finding is that most individuals volunteered information about colleges or technical schools without being prompted to do so in the interviews. Asking individuals to comment on the skills they developed at university, and to make general assessments about the type of education offered, prompted many to use "community colleges" and "technical schools" as a basis for comparison.

4. Employment Skills and the Workplace

In Chapter 4, the employment experiences of all interview participants were profiled. As well, earlier in this chapter, the skills that graduates mentioned that they developed at university were outlined. With this information in mind, this section will outline graduates' perceptions about their ability to utilize the skills they learned at university in the workplace. As well, findings will be presented on participants' perceptions about the prevalence of skill shortages in the labour market.

a) *The Utilization of Learned Skills in the Workplace*

During the interviews, participants were asked two questions which reflected their ability to utilize the skills they learned at university in the workplace:

> *"We were talking earlier about the types of things you learned, or abilities you developed in your university program which would be relevant to the workplace. Have some of these things you mentioned been useful for you in your work experiences so far?"* (Question 18d)

> *"Once again, with respect to these job-related things or abilities you mentioned you learned or developed in your program, are there any which you feel you have NOT been able to utilize in the jobs you've had so far?"* (Question 18e)

The first question addresses in a more focused way how participants have been able to apply the skills and abilities developed at university in the labour market. This question particularly relates to some of the criticisms which have been raised regarding the type of education universities provide, and the level of "human capital" that university students are acquiring. Specifically, this question was developed so that graduates could discuss the manner in which their education had been useful for them in their jobs since graduating. In terms of the research objectives of this study, it examines the specific nature of the human capital which is acquired through a university education and which subsequently has been of value to individuals. The second question addresses the types of jobs that participants have had since graduating, and whether those jobs have been successful in providing opportunities to utilize learned skills. Conceptually, this question is in line with some of the rebuttals of criticisms regarding the utility of a university education. For example, it can also be argued that a problem for many graduates today is not a lack of employment skills, but a lack of opportunities in the labour market to utilize acquired skills.

Overall, thirty-three participants were asked the first question (Question 18d). Out of all skill types mentioned by graduates, *substantive skills and knowledge* were cited most often (12 times) in response. There was little variation in the number of responses by faculty, as four Science graduates, three Business, three Education, and two Arts graduates answered in this manner. Excerpts from interviews with a Business and a Science graduate help to illustrate this type of response.

Gary:
The most direct- well it's u- it the business courses, particularly accounting and finance are-are directly relevant- to the- to the work that I do <hm-hmm>. Ok? And we're talkin' about things like uh (PP) Uh-u tax courses <hm-hmm> uh I took courses on you know like accounting skills <yeah> uh- financial statement analysis <hm-hmm>- that sort of thing. Um- capital budgeting <hm-hmm> um- you know

Tim:
Oh yeah I can- yeah- cause every now and again things will pop up that I'll remember back university 'Oh I learned this' and you know I can, you know I know what's going on, what they're talking about <hm-hmm>. So I'll have the background to sort of you know maybe sometimes converse on their level and know what they're talking about when I read literature and things so.

Thus, about one-third of participants believed that some of the specific substantive knowledge they acquired in their programs had been applicable to their jobs. This is interesting since other more generic skill types (e.g., reasoning, communication, social skills) were cited elsewhere in the interviews as skills which had *been learned* in programs and which are relevant to jobs.

Besides *substantive skills and knowledge,* the next most frequently cited skill that was applicable to the workplace was *communication skills* (10 references). It is interesting that only one Arts graduate answered this way, while three Business, three Science, and three Education graduates mentioned the usefulness of the communication skills that they had developed. Specific references to *communication skills* included "verbal/ speaking skills" which had been applicable (4 references), as well as "presenting" (3 references) and "writing" (3 references).

Analytical/ reasoning skills comprised the third most frequently cited skill type (9 references). This included four references each for "analytical/thinking skills" and "problem-solving skills." Since twenty graduates altogether had indicated that *analytical/ reasoning skills* were learned in their programs (as outlined earlier in this chapter), this suggests that just under half of these twenty participants identified these skills as being useful for them in the workplace. Business graduates (5 individuals) followed by Science graduates (3 individuals) were more likely to mention the usefulness of these skills, while only one Arts graduate indicated this. Recall from earlier that Arts and Business graduates, followed by Science graduates had provided the most references to *analytical/ reasoning skills* as something which had been learned in their programs. Therefore, the fact that only one Arts graduate indicated that these skills had been useful in the workplace could suggest that either these skills lacked relevance, or alternatively that there had not been many opportunities for them to be utilized.

In order, the remaining skill types that had been useful for graduates in their jobs included; *time management* (6 references), *work habits/ skills* (5 references), *social skills* (4 references), *learning techniques* (3 references), and *creativity* (2 references). Generally, there was not a lot of variation in responses by faculty. However, only Business graduates (2 individuals) cited "creativity" as something that had been useful for them. As well, Science graduates were a little more likely to indicate that the *work habits/ skills* that they had developed at university had been useful for them in their jobs. Specifically, three Science graduates, one Business, and one Arts graduates mentioned this. Finally, besides these specific skill types, six individuals (16 percent) also mentioned that they had simply been able to utilize "most things" that they had learned at university in their jobs.

In response to the second question outlined above (Question 18e: *"Are there any skills which you feel you have NOT been able to utilize in the jobs you've had so far?"*), twenty participants (54 percent) cited specific substantive knowledge learned in their programs that had not been useful in the workplace. Business graduates (6 of 8 individuals) and Science graduates (8 of 13 individuals) were more likely than Education (3 of 6 individuals) and Arts (3 of 10 individuals) to specify this. More specifically, responses of this sort often included the specific content of courses, which individuals believed had not been useful. Nevertheless, seven of these twenty individuals had also cited *substantive skills and knowledge* as something that *had been* useful for them (outlined directly above). Therefore, as might be expected, several individuals indicated that there was some specific substantive knowledge that had been useful for them in the workplace, and some that had not been useful. There were very few other specific skills that graduates cited in response to this question. For example, only two individuals mentioned that, in their current jobs, they were not using their problem-solving skills to the extent that they would like. As well, only one other participant, an Arts graduate, mentioned that in his current job he wasn't utilizing the research or writing skills he had developed at university.

Seven interview participants (3 Science, 3 Arts, and 1 Business graduate) simply rejected the premise of the question by stating that they were able to utilize "most things" that they had learned at university. The following quotations, the first from a Science graduate, and the second from an Arts graduate, are examples.

Jeff:
I was asking you also before, some of the things you had learned in your programs, specific or general things. Are there things you feel that you uh, you've not been able to utilize in the jobs, the jobs you've had. Any kinds of abilities you developed in your university program?
Peter:
Um- not really I think- I think everything kind of goes into you know developing who you are and how you apply it and <hm-hmm> I guess. Um I think whatever I learned at university, whether it was the formal training or the <yeah> just the things I learned um in general I think <they get applied?> apply yeah.
Jeff:
In some sense- whether you can articulate that?
Peter:
Yeah it might not really be, you might really be able to directly relate it- it's in there somehow I think like <Ok Ok>...like I just, I think your education goes into developing who you are and I think um, you use it all, your personality ultimately becomes you know <yeah> who you are and that, all that gets related to your job I guess- like if you're doing.

Erin:
I think that there's- like I think I've gained a lot of things from <hm-hmm> my program <yeah>. But I don't feel (P). Like I said before I don't think that my program gave me the skills to do my job <Ok>. Like they gave me some skills <yeah>. But not the administrative part of my job. So I don't um- are there anything- is there
Jeff:
...that you haven't been able to utilize that you-you you have the a certain-certain skills that (P) may be dormant or?
Erin:
Um- I don't think so <No>. I think everything that I've learned I've been able to put to use- whether it's through teaching or
Jeff:
By virtue of your <yeah> position?
Erin:
Yeah.

As suggested by these two quotations, both individuals believe that they had been able to utilize most of the skills they learned at university in their jobs. The first individual, Peter (an Earth Science graduate), is a pilot for an Alberta charter company. He had mentioned earlier in the interview that he had learned the following skills at university (in order): self-discipline, time-management, working with people, substantive skills and knowledge, and developing a broader perspective. The second individual, Erin (a Fine Arts graduate), is an Arts program director for a local municipality. She had mentioned earlier that she had learned the following skills at university: substantive skills and knowledge, critiquing skills, and problem-solving skills.

Peter's comments suggest that the types of things he learned at university are useful in his job as a pilot, but may also be transferable to different types of jobs. He also mentioned in the course of the interview that he believed that there was a good match between his Science degree and his aviation career. On the other hand, Erin's comments seem to suggest that the skills she learned at university may be applicable because of the opportunities to use those skills in her specific job. However, as she also indicates, there were some things that were required for her job that she simply did not learn in her degree program (i.e., administrative skills). At another point in the interview she also expressed the opinion that her program lacked a practical dimension, in terms of skills which should have been learned. She cited a local community college as a place that did teach practical administrative skills for individuals pursuing a career in the Arts. Nevertheless, despite any reference to a need for practical skills, her comments suggest that many of the things she learned in her university Arts program have proved to be useful for her.

Overall, combining responses from Questions 18d and 18e, eleven individuals indicated that "most things" they had learned at university were useful in the workplace. Table 14 outlines in order, the skills that these eleven individuals mentioned they learned in their programs. As shown in Table 14, these eleven individuals made nine references to various *communication skills*, seven references to various *analytical/ reasoning skills*, five references to *time management skills*, and four references each for *social/ interpersonal skills*, and *work habits/ skills*. Additionally, three references were given for *substantive skills and knowledge*, developing a *broader perspective* and *learning techniques*, as well as one reference each for *general skills* and *computer skills*.

Thus, *communication skills* and *analytical/ reasoning skills* still remain among the most prominent skill types that individuals said they learned in their programs and used in their jobs. As well, *time management* was mentioned slightly more often. On the other hand, *social/ interpersonal skills* appeared to be used less often, as were *substantive skills and knowledge*.

Table 14
Skills learned in program (responses to Question 3a), for participants who said they used "most skills" in their jobs

Participant	**Skill #1**	**Skill #2**	**Skill #3**	**Skill #4**	**Skill #5**	**Skill #6**
Catherine *(Science)*	Substantive	Team-work	Interdisciplinary	Reading	Writing	Communication
Jeremy *(Science)*	Problem-solving	Time-management				
Peter *(Science)*	Self-discipline	Time-management	Work with people	Substantive	Broader perspective	
Chantel *(Science)*	Problem-solving	Self-discipline	Time-management	Broader perspective		
Darren *(Arts)*	Self-discipline					
Julie *(Arts)*	Analytical	Problem-solving				
Erin *(Arts)*	Substantive	Critiquing	Problem-solving			
Trina *(Arts)*	Research	CommunIcation	Written	Analytical	To learn	
Mike *(Business)*	Work hard	Work with people				
Pamela *(Business)*	Team-work	Presenting	Time management	To learn	General skills	Computer
Tara *(Education)*	Communication.	Organization	Writing	Speaking		

A skeptic might argue that, when graduates remarked that "most things" were applicable to the workplace, they lacked the ability to specifically recognize or articulate specific instances. In other words, these graduates were simply offering a quick reactive type of response, instead of providing specific examples of how skill transfer occurred. To some degree, this argument has merit since a number of interview participants did have some difficulty identifying how their university education was relevant to their jobs. This was particularly so for those participants who had graduated from more general types of programs (i.e., Arts, Science, and Business) rather than the Education program, which is more oriented to labour market outcomes. All responses to Question 18d were analyzed to assess how difficult it was for participants to articulate how the skills they learned at university were used in their jobs. During the coding process, these responses were situated on a four-point scale developed by the author. This scale contained the categories "very difficult" (i.e., very difficult for participants to discuss or articulate the usefulness of skills learned in their jobs), "somewhat difficult," "somewhat easy" and "very easy." Findings revealed that twenty of the thirty-three individuals (61 percent) who answered this question found it either "very difficult" (4 individuals) or "somewhat difficult" (16 individuals) to explain how the skills that they had learned were actually applicable to their jobs. The remaining thirteen individuals (39 percent) found it "somewhat easy" to provide their thoughts on this issue. Thus, the majority of participants found it at least somewhat difficult to articulate how the skills that they had developed were applicable to their jobs. This suggests that they had perhaps not reflected on this feature of their education, either while attending university or in the intervening years. This does not mean however that individuals do not utilize what they learned at university in their particular jobs. For example, the majority of individuals were able to cite at least some skills throughout the interviews that were relevant to their jobs. Rather, the point is that, for many individuals, their ability to articulate specific features of what they learned was limited.

From another perspective, the fact that eleven individuals did indicate that they were able to utilize "most things" they had learned in their programs is notable, especially when compared to other findings in this study. For example, it suggests that three-tenths of this sample generally believed that the majority of the skills they had developed in their university education had been applicable to their jobs since graduating. However, this is not to suggest that the remaining two-thirds believed that there were not any skills which they had learned in university which were relevant to the workplace. Instead, most of these individuals mentioned specific skill types, instead of indicating that "most things" had been relevant. Overall, thirty-two graduates (86 percent) indicated that at least some university-acquired skills had been relevant for them in the workplace. Furthermore, only five graduates (14 percent) seemed ambivalent about the usefulness of some of the skills they had mentioned, and only two of these five individuals indicated that "none" of the skills and knowledge that they learned in their programs had been relevant for them in the workplace. This is a revealing finding in light of some of the criticisms that have been directed at universities regarding the usefulness of degree programs for jobs in the labour market.

b) *Perceptions of Graduate Skill Shortages*

Interview participants were also asked to reflect on the argument that university graduates may not be acquiring adequate employment skills for today's labour market. Specifically, they were asked:

> *"Some people have noted that a significant reason why there are higher levels of unemployment for younger adults in Canada, is because of a skills shortage. For example, it has been suggested that university/post-secondary students are not acquiring the skills needed by employers today. What would you say about this view that a skills shortage is a significant reason why younger adults such as university/post-secondary graduates have experienced higher levels of unemployment?"* (Question 20a)

More than anything else, this question was intended to capture participants' views on the issue of graduate skill shortages. Overall, eleven of thirty-six individuals (31 percent, including 4 Arts, 3 Science, 3 Business, and 1 Education graduate) disagreed with the statement. Six of these eleven individuals believed that, rather than lacking skills, the problem for most graduates when they enter the labour market is that there are "no jobs." An example from an Education graduate illustrates this view.

Olivia:
I don't think there's the jobs out there <hm-hmm>. I I think, yes there might be some people that don't have the skills after, coming out of university, but usually the skills are there, people have got the degree, they've got the knowledge <hm-hmm>, but there's too many older people out there that are still working <yeah>. You know, teaching profession- there's only so many teaching jobs, and there's so many that are in there already, they're staying in there <right>- there's just no openings <hm-hmm>. You know even for doctors <yeah> with all the cut backs there are, there's just no jobs <hm-hmm>.
Jeff:
So that's that's, you wouldn't buy into that view then?
Olivia:
No I don't think so.

As revealed by this quote, Olivia attributed unemployment among graduates to conditions in the labour market. On the other hand, ten individuals (28 percent, including 4 Science, 3 Arts, 2 Business, and 1 Education graduate) agreed outright with the statement. That is, these individuals believed that an important reason for higher levels of unemployment among graduates is that they likely lack the necessary skills for jobs in the labour market. Four of these ten individuals indicated that graduates lack "practical" or "specific" skills, and that this contributed to unemployment. Here is an example of this view from an Arts graduate.

Ron:
Um yeah- that's uh- I mean that's uh- I definitely would agr- agree with that <hm-hmm- Ok>. Um because I don't know, like coming out of an Arts degree- um- I yes I had acquired, I have acquired like you know a general like overall like, how to learn and you know organize time and things like that <hm-hmm>. But I don't know if I really had a particular skill <yeah> that- like to tell the truth when I went out, like even- I-I wouldn't feel confident just going to apply for a job, um well I guess it depends what job but, with just my degree down on there.

Generally, Ron's position was similar to that of some of the other graduates who agreed with the statement, in that he mentioned he had not acquired a "particular" skill in his program. While he recognized the "general" skills he had developed, his response suggests that he wished he had acquired a more job- specific education. It is interesting to note that this individual had subsequently entered a community college program in finance.

Besides those who simply agreed or disagreed, six more individuals (17 percent) suggested that, while graduates may lack some skills when they enter the labour market, the reason why many may be initially unemployed is that they lack "job experience." Another four graduates (11 percent) suggested that while some individuals may lack skills, it was not necessarily the university's fault, as they are not responsible for providing students with such skills.

One of the things that may have distinguished those who agreed from those who disagreed that there are graduate skill shortages is that half of the former had indicated earlier that universities should be teaching more specific skills to students. On the other hand, of those who disagreed, only two of eleven had remarked that universities should be focusing their efforts on teaching more job-specific skills. However, this is not to say that individuals who disagreed were opposed to the idea that specific skills should be taught at university. For example, regardless of whether individuals had agreed or disagreed, approximately the same number in each group had made some reference to a lack of a "practical" dimension in university programs. Thus, while some individuals did not believe that there are skill shortages among graduates, they believed that some modifications could still be made in terms of the type of education that individuals receive at university.

Interview participants were also asked the following question regarding the role that students play in terms of their own skill development:

> *"Do you think it's the responsibility for university students to make sure they have the right kinds of skills that employers are looking for?"* (Question 20b)

Overall, thirteen individuals (36 percent; including 4 Business, 4 Arts, 3 Science and 1 Education graduate) said that it *was* the student's responsibility. Another twelve individuals (33 percent; 7 Science, 3 Education and 2 Business graduates) indicated that there was a joint responsibility between students and universities to ensure that individuals had acquired the proper skills. On the other hand, four individuals (11 percent; 3 Arts, and 1 Business graduate) indicated that there was a joint responsibility between students and employers. Three more participants (8 percent) suggested that it would be difficult for students to know what skills would be needed for the workplace while attending university. One of these individuals (an Arts graduate) specified that it was not the student's responsibility, but rather the university's responsibility[6].

Therefore, taken together, twenty-nine of thirty-six individuals (81 percent) did believe that students were at least somewhat responsible for making sure that they had the necessary skills when entering the labour market. As well, thirteen individuals (33 percent) believed that universities were at least somewhat responsible for the skill development of students. Finally, four individuals (11 percent) indicated that employers were at least somewhat responsible. Nevertheless, as suggested earlier in Chapter 4, a large majority of graduates (93 percent, or 25 of 27 people) said that it was the employer's responsibility to train workers for the things they needed to know on the job. Together, these responses suggest that participants may have been more inclined to say that it was the responsibility of either the student or the university to prepare them for jobs *initially*, but that employers were very much responsible for specific skills used *on the job*. Education and Science graduates were a little more likely to indicate that universities were at least somewhat responsible for the skill development of students. As well, Arts graduates were a little more likely to indicate that employers were at least somewhat responsible.

Summary

This chapter set out to examine in more detail graduates' subjective assessments about the specific skills that they acquired through their university education, the usefulness of these skills for the workplace, as well as their perceptions of the role of universities for developing employment skills. In this respect, this chapter addresses the broader debates presented in Chapter 1, which question the value of a university education, and specifically the human capital that graduates take with them into the workplace. The findings from this chapter are also relevant to theoretical discussions about the nature of "human capital" itself.

With respect to the types of skills that 1997 interview participants volunteered as having been learned in their programs and which were relevant to jobs, eleven different skill types were mentioned. The three most frequently cited were *analytical/ reasoning skills* (20 references), *social/ interpersonal* (20 references), and *communication skills* (19 references). A rank ordering of responses reveals that *analytical/ reasoning skills* were clearly cited most often as a 1st response by 1997 interview participants. As well, findings from the 1989 and 1992 ESWS questionnaires reveal that a large majority of respondents in both time periods "agreed" or "strongly agreed" that their reasoning skills had been improved upon in their programs.

Social/ interpersonal skills equalled *analytical/ reasoning skills* as the most frequently cited skill type. This skill type was also volunteered most often as something that was developed at university, but specifically outside of the classroom. Even though it was not cited as a 1st response as often as other skill types, findings reveal that participants believe that *social/ interpersonal skills* are a prominent employment skill developed within universities. Business graduates were more likely to mention *social/ interpersonal skills* as having been developed. This might be because students in this faculty tend to participate in various group projects in their courses.

Findings from throughout the interviews also suggest that many participants were generally positive about the development of their *communication skills*. For example, this skill was the third most frequently cited skill type that graduates mentioned that they had learned in their programs and

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[6] Additionally, four individuals did not provide a response to this question.

which was relevant for jobs. As well, a large majority of ESWS respondents in 1989 and 1992 "agreed" or "strongly agreed" that their communication skills had been improved as a result of their education. Extending on this, a number of 1997 interview participants were specifically asked to rate the development of their communication skills. More Science graduates rated the development of their communication skills, and in particular their "writing" and "presentation skills," negatively than they did positively. Altogether, with the exception of references to presentation skills, 1997 graduates were generally positive in their evaluations of their communication skills. Nevertheless, these findings do suggest that university administrators, and particularly those from particular faculties (e.g., Science) may need to make a more concerted effort in promoting students' development of their communication skills.

Additional skill types that were volunteered by 1997 participants as having been learned in programs include: *substantive skills and knowledge* (15 references), *time management skills* (13 references), *learning techniques* (13 references), *work habits* (12 references), and developing a *broader perspective* (12 references). Business and Arts graduates were more likely to cite *learning techniques* (i.e., "how to learn," and "research techniques") as something that they had learned in their programs. As well, more Science graduates indicated that they had developed a *broader perspective* in their programs.

Generally, most of the skill types that participants volunteered as having been learned in programs are basic or general workplace skills (i.e., as opposed to job-specific skills). The exception here would be some of the *substantive skills and knowledge* that some participants cited as having been learned. For example, Science and Education graduates were somewhat more likely than Business and Arts graduates to indicate that they had learned substantive skills in their academic programs.

Overall, a large majority of interview participants (91 percent) indicated that university was important for them in terms of learning or developing many of the skills that they had identified. This clearly indicates that a university education has been of value for these graduates in terms of learning many of these skill types. This is particularly important considering the fact that individuals were interviewed approximately 7-8 years after completing their programs. It suggests that the development of certain skills acquired at university have lasting value.

Interview participants cited *practical skills* most often as something which *should* have been learned in university (23 references overall). This was followed by *communication skills* (12 references) and *social/ interpersonal skills* (7 references). The larger number of references to *practical skills* is an important finding as it suggests that many participants would have welcomed a more practical dimension to the education they received at university. As outlined in the previous chapter, this was also cited by participants as a prominent weakness of programs (i.e., not practical enough). Education graduates were somewhat less likely to indicate that *practical skills* should have been learned. This is perhaps not surprising, since Education students would likely have been taught more job-specific skills (i.e., teaching skills), compared to graduates in the other three faculties.

In response to a question about skills that had been useful in the labour market since graduating, *substantive skills and knowledge* (12 references) was mentioned by interview participants most often, followed by *communication skills* (10 references), and *analytical/ reasoning skills* (9 references). Therefore, while graduates predominantly identified basic or general workplace skills as having been learned at university, a number of participants did recognize that some of the substantive knowledge that they had learned had also been important for them in their jobs. Nevertheless, while *substantive skills and knowledge* was mentioned most often as having been utilized in the workplace, it was also mentioned most often as *not* having been utilized. However, this may not be all that surprising since many graduates would not be able to directly apply all of the substantive content learned at university in their jobs.

It is interesting to note that only one Arts graduate mentioned that the *communication skills* learned in university had been useful for the workplace. However, *communication skills* were cited by three graduates from each of the other three faculties. Business graduates, followed by Science graduates, were also more likely to say that their *analytical/ reasoning skills* had been useful in their jobs. Additional skill types that participants mentioned as having been useful included *time management skills*, *work habits/ skills*, and *social/ interpersonal skills*. As well, a number of participants simply said that they were able to utilize "most things" that they had learned at university in their jobs. Together, these findings reveal that participants believed that they had been able to use a large number of the skills that they had identified as having been learned in their university programs. This suggests that many of the things that they learned in their programs, including basic and general workplace skills, as well as some of the specific substantive skills and knowledge, were being utilized in the labour market.

ESWS respondents and participants from the 1997 interviews were asked some additional questions about the relationship that exists between universities and the labour market. Survey respondents in 1987 and 1989, and graduates in 1997 were somewhat divided as to whether universities should be spending more time preparing students for the labour market, or whether they were "out of touch" with the employment needs of their students. Arts students in 1987 and 1989 were less likely to say that universities should be preparing students for jobs. However, it is interesting that in 1997, Arts graduates were *more* likely to say that universities were "out of touch" in terms of preparing students for jobs. This might be explained by the fact that more Arts graduates indicated that they were overqualified for their jobs in 1992, and 1997, and therefore believed that the University could have perhaps done more in preparing them for the labour market. As noted in the previous chapter, Arts graduates were also more likely to indicate that a weakness of their program was that it did not lead to a specific job.

Extending on this issue, interview participants were also asked to more generally evaluate the types of skills taught in universities. A little more than half of graduates (52 percent) indicated that universities should not teach more job-specific skills, thirty percent said that universities should teach more specific skills, while eighteen percent of participants were ambivalent about this issue. On the other hand, slightly more than half of all participants did mention that their programs lacked a "practical" dimension, while a majority of participants (62 percent) noted that *practical skills* should have been learned in their programs. Thus, while about half believed that universities were currently doing a good job in teaching general workplace skills, a sizable number of interview participants believed that universities could be doing more.

It is interesting to note that several individuals who believed that universities should not be teaching job-specific skills noted that other types of post-secondary institutions already perform this role. In fact, references to "community colleges" and "technical schools" constituted a notable theme in the interviews, as approximately six-tenths of interview participants made some reference to them. A large majority of these individuals noted that universities and community colleges/ technical schools were fundamentally different in their academic orientations. However, a number of individuals also provided positive comments about these other types of post-secondary institutions. For example, about one-fifth of participants mentioned that they were more oriented to job training. As well, a small minority valued the "practical" orientation of the programs offered at colleges or technical schools. Nevertheless, despite such comments, no one completely rejected the type of "general" education offered at universities.

Interview participants were also asked whether they believed that graduate skill shortages exist, and if this was the reason why graduates have experienced labour market difficulties. Generally, graduates were almost evenly split on this issue. However, when asked whether students themselves were responsible for making sure that they have the skills that employers are looking for, more than eighty percent of graduates agreed. Thus, even though graduates expect more from universities, many also believe that individuals need to take responsibility for what they learn, and to prepare themselves for jobs accordingly. This is not all that surprising, given the strong individualistic work values in North American society.

The interviews were also designed to question how participants defined the term "skill" itself. Virtually all interview participants conceptualized skill as an ability, aptitude, or some type of acquired knowledge which an individual possesses. Similarly, when asked the question *"What is a skilled job?"* a significant majority of participants indicated that this meant that individuals should have specific abilities prior to entering jobs. As a result, participants adopted a *skill in individuals*, or a human capital definition of the term, as opposed to a *skill in jobs* perspective. That is, graduates largely associated skills with individual traits and abilities as opposed to something inherent in the content of work. This suggests an individualistic view of skill, which is also in keeping with the typically high evaluation of the characteristics of individualism and achievement in our society. It also suggests that graduates may have adopted the type of human capital perspective on skill (i.e., *skill in individuals*) which is often utilized by policy-makers, industry and the media.

Nevertheless, some interview participants appeared to have difficulty identifying which skills were learned in their programs, and which of these skills were useful for their jobs. For example, a number of individuals hesitated when asked to list the employment skills that they had learned in their programs. As well, when asked which of these skills were actually utilized in their jobs, a majority of graduates (61 percent) had at least some difficulty answering. This may indicate that many of these individuals did not necessarily perceive their programs to be designed for specific jobs. For example, at least three of the faculties which were considered in this study (Arts, Science and Business) offer programs which are more general in their academic orientation than are some other programs at university (e.g., Nursing, Education, Law). In this respect, identifying and examining employment skills learned in programs may have been difficult for some individuals. As well, many individuals said they had not chosen their programs with a specific labour market outcome in mind, but rather, had chosen their program because of an interest in the subject matter.

Summing up, the findings from this chapter suggest that graduates do value the employment skills that they learned at university, even after a number of years in the labour market. Most of the skills they identified were basic or general workplace skills, although a number of graduates did mention that some of the specific *substantive skills and knowledge* learned in their programs had been useful in their jobs. Findings also reveal that graduates have a mixture of responses towards the question of whether universities should be teaching general or specific skills. On the one hand, a slight majority of graduates believed that universities were doing a good job in teaching general employment skills to students. However, at the same time, a slight majority of graduates also believed that universities could be doing more in terms of teaching "practical" skills to students. In the next chapter, I will discuss these findings, as well as those from the previous two chapters, in the context of the broader public policy debates about the value of a university education and the more specific theoretical research on human capital.

Chapter 7
Discussion and Conclusions

This chapter will summarize and discuss some of the main findings in this study, in the context of the research objectives and questions that were set out in Chapters 1 and 2. More specifically, it will demonstrate how the findings of this study address: (1) questions surrounding the value of a university education today; (2) theoretical discussions of human capital and skill; and (3) methodological debates about how graduates' assessments of their university education and employment skills can be best analyzed. Following this, I will outline some potential future research directions in this field of study and then discuss some of the implications of the study for university administrators.

1. The Value of a University Education

The main research objective in this study has been to examine the value of a university education. This was approached in three ways: (i) by examining employment outcomes of university graduates; (ii) by examining graduates' subjective evaluations of their university education; and (iii) by examining graduates' perceptions of their skill development at university and subsequent skill use on the job. The primary reason for focusing the study on these issues is because of widespread suggestions from policy-makers and industry that today's university students are not being properly equipped with the necessary human capital for the Canadian labour market. Specifically, there are concerns that university graduates may not be acquiring suitable employment skills. The problem is that such concerns and criticisms are often based on little empirical research. To date, only a limited amount of Canadian research has examined the perceptions of graduates about their skill development and their university education in any depth once they have been in the workforce for a number of years. The exceptions here are a few Canadian studies, such as the *Making the Match* project (Rush and Evers, 1986; Rush et al., 1990; Evers et al., 1998), which have explored skill development among university students and its relationship with demands for employment skills in the labour market. As well, some improved measures of skill development and utilization of skills in the workplace have been incorporated into more recent versions of the National Graduates Survey. However, few follow-up studies have asked how graduates might value their university education in light of their subsequent workplace experiences. While many Canadian academic institutions conduct exit surveys of their graduates, inquiring about student satisfaction and assessments of university education, these surveys generally take place at the time that students are graduating, and do not track graduates' perceptions over time. One of the benefits of the approach taken in this study is that it does examine graduates' perceptions about their university education in greater depth and after they have been in the workforce for a number of years, and it does examine over-time changes in attitudes about university education. As well, unlike many existing studies, the current approach does not rely solely on forced-choice questions. Instead, it examines graduates' voluntary responses to open-ended questions about which skills were developed in their university programs.

The following three sub-sections will summarize some of the main findings from the study and discuss what they tell us about the value of a university education.

(i) Graduate Employment Outcomes

Findings from Chapter 4 revealed that a university education had been of considerable value for graduates in the labour market. A large majority of graduates had acquired "good jobs" by 1997. This observation is based on the range and types of jobs that interview participants had acquired, and also on their assessments of these jobs in terms of a number of characteristics (e.g., job complexity, job autonomy, assessments of jobs as "skilled"). Furthermore, a large majority of graduates had found work since graduating which was satisfying, and for which they believed they were qualified. Altogether, only five of thirty-seven 1997 interview participants remarked that they were both overqualified and dissatisfied with their jobs. Additionally, only a minority of individuals had difficulty finding work after graduating.

Science graduates in this study were more likely to indicate that they had difficulties finding jobs after graduating. This is an interesting finding given the common perception that Arts graduates are more likely to experience difficulties in the labour market after graduating. Findings from other recent Canadian studies have also found that Arts graduates are no more likely to be unemployed than are other university graduates (Allen, 1998). However, this is not to suggest that Arts graduates in my study did not have any problems finding suitable employment. For example, compared to graduates of other faculties, a larger percentage of Arts graduates in 1992 and 1997 were likely to indicate that they were "overqualified" for their jobs. As well, fewer Arts graduates (and Science graduates to some extent) were likely to say in 1992 that they were satisfied with their jobs. However, this 1992 finding on job satisfaction was off-set by the fact that Arts graduates were not necessarily any less likely to say they were satisfied with their jobs in 1997.

Thus, both Science and Arts graduates had experienced some difficulties in the labour market since graduating. While policy-makers and industry representatives often argue the need for more Science graduates, the findings from this study reveal that Science graduates were not any more likely to have experienced success in finding employment. As well, while Arts programs may sometimes be valued less by governments and industry than are other program types (e.g., Science, Engineering, Business), Arts graduates in this study had acquired a wider range of jobs than had graduates from the other three faculties. One potential explanation might be that Arts graduates acquire skills in their programs which are more transferable and applicable to a wider range of occupations. While it is difficult to test such an hypothesis in this study, the findings do at least reveal that Arts graduates are finding jobs in a diverse range of occupational settings.

(ii) Graduates' Assessments of their University Education

Graduates' subjective assessments of their university education were examined in Chapter 5. These findings revealed that a majority of graduates in 1989, 1992 and 1997 were generally positive in their assessments of their university programs. For example, a large majority of individuals in all three time periods were content with the educational choices they had made. As well, almost all 1997 interview participants indicated that "it was worth it" for them to have obtained their undergraduate degree. Slightly more Science and Arts graduates indicated in 1989, 1992 and 1997 that they should have chosen another degree program, or that they had regrets about their educational choices. Of those participants who did have some regrets, most related this to difficulties they had experienced in the labour market since graduating.

Other findings also reveal that 1997 interview participants clearly did value their university degrees. For example, about six-tenths of graduates acknowledged that university degrees were valuable to employers as credentials. However, while many acknowledged that degrees can act as an important signalling device for employers, few were convinced that this credential was sufficient for graduates when they entered the labour market. For example, most suggested that it is "what is behind the piece of paper" (i.e., the degree), in terms of knowledge and skills, that is more important. Thus, graduates recognize that their success in the labour market is partially contingent on a system of credentialism, but more importantly, on the type of human capital acquired by individuals through their education.

While 1997 participants generally provided a number of positive comments about their university education, they also cited some specific weaknesses of their programs. For example, more than half of the graduates remarked that their programs lacked a "practical" dimension. This finding is noteworthy. It suggests that criticisms of the type of skills and knowledge that individuals acquire in universities may not be completely unfounded. For example, suggestions that university education needs to be at least somewhat oriented to the labour market receives support from approximately half of the graduates in this study.

Another program weakness volunteered by almost one-third of participants was that their programs did not lead to a specific job after graduating. While a number of these individuals seemed to recognize that their academic programs were intentionally more general in nature, they still seemed to perceive this to be problematic to some extent. Compared to other faculties, Arts graduates were somewhat more inclined to take this position. This, along with other findings, suggests that over time, Arts graduates have developed a more instrumental perspective regarding the type of education they believe that students should receive at university. As suggested earlier, this change in perception likely resulted from difficult experiences of some Arts graduates in the labour market since graduating.

Together, some of the criticisms offered by graduates about their programs might suggest that they looked to their education mainly as a means to future employment. However, this is not consistent with their account of their motivations for having originally attended university. For example, over time (1986 through to 1997), more individuals were inclined to say they had entered their programs because of an interest in the "subject" matter rather than for "career" reasons. While future employment may have been a consideration, it was not necessarily the primary motivation for attending university.

Overall, the positive sentiments expressed by interview participants clearly outweighed any negative criticisms that they made about their university education. At a broad level, the findings from Chapter 5 clearly convey the conclusion that graduates did value their university education several years after graduating.

(iii) The Development of Employment Skills at University

The third way that the value of a university education was examined in this study was through graduates' voluntary accounts of the skills they learned at university, and their assessments of which skills were most valuable for them in the workplace. Overall, graduates identified a wide range of employment skills that they had learned in their academic programs. They also believed that they were able to utilize many of these skills in the workplace. The employment skills which graduates identified fall into eleven different skill types. The three most frequently cited were *analytical/ reasoning skills*, *social/ interpersonal skills* and *communication skills*. These were followed by *substantive skills and knowledge*, *time management skills*, *learning techniques*, *work habits*, and *developing a broader perspective*. Additional findings from the 1989 and 1992 ESWS questionnaires reveal that a large majority of respondents believed that their communication and reasoning skills had been improved in their programs. As well, in 1997, communication and reasoning skills (i.e., specifically *analytical/ reasoning skills*) were two of the three most frequently cited skill types mentioned as having been learned in programs.

Overall, more than nine-tenths of interview participants indicated that university was important for them in terms of learning or developing many of the skills that they had identified. This is a significant finding as it suggests that a university education has been of value for these graduates with respect to learning many of these skills.

All but one Business graduate mentioned in 1997 that they had developed their *social/ interpersonal skills* in their academic programs. More Business and Arts graduates cited *learning* *techniques* (i.e., "how to learn," and "research techniques") as something that they had learned in their programs, and which was relevant to employment. As well, more Science graduates indicated that they had *developed a broader perspective* by virtue of their programs. However, Science graduates were more inclined to be critical of the communication skills that they had developed, in particular, their writing and presentation skills.

Many of the skill types that individuals volunteered as having been learned in their programs are basic or general workplace skills, as opposed to job-specific skills. The exception is some of the *substantive skills and knowledge* that participants cited as having been learned and which had been useful for them in the workplace. It is interesting to note that a large number of the skills that graduates identified are reflective of the types of skills which have been highlighted recently by industry and government, as those which are required in the labour market today. For example, all seven sub-categories of skills highlighted in the Conference Board of Canada's *Employability Skills Profile* were also cited by 1997 participants as having been learned at university. These seven skill categories include *communication skills, thinking skills, working with others, learning skills, positive attitudes and behaviours* (i.e., initiative and persistence), *responsibility* (i.e., time management), and *adaptability* (creativity). Only the last category (*adaptability*) was cited less frequently by 1997 interview participants. In this respect, it would seem that graduates believe that they had learned or developed many of the skill types which are recognized by the Conference Board of Canada as being "the critical skills required of the Canadian workforce." This finding clearly counters criticisms that the skills learned at university are not those which are valued by employers.

Interview participants were asked to identify employment skills that they believed they *should* have learned. Graduates cited *practical skills* most often as something that should have been learned, followed by *communication skills* and *social/ interpersonal skills.* The larger number of references to *practical skills* fits with a frequent criticism made by participants throughout the interviews, namely that programs lacked a practical dimension. Although graduates did not always specify exactly what they meant by "practical" skills, their responses generally revealed that they would have liked to have learned some job-specific skills at university. Given that approximately half of the graduates remarked that they would have liked to learn more practical skills, it might be asked whether they were supportive of the types of skills that they did learn at university. In fact, just over half said that universities should *not* teach more job-specific skills, while about one-third remarked that universities *should* teach more specific skills. Other findings revealed that about one-fifth of graduates noted that, in comparison to universities, a benefit of other types of post-secondary institutions such as community colleges or technical schools is that they were more oriented to specific jobs in the labour market.

Altogether, the findings suggest that these graduates who have been in the workforce for a number of years: (1) did recognize a range of basic or general skills that they learned in their university programs and which had been useful for them in the workplace; (2) believed their programs were instrumental for having learned such skills; and (3) believed that universities were doing a good jobs in terms of teaching general types of skills. On the other hand, the findings also reveal that a large minority of graduates believed that universities could be doing more in terms of teaching practical or job-specific skills. A few graduates remarked that their programs were simply "too theoretical." Thus, while graduates valued the types of skills that they did learn, they believed that perhaps some additional skills could have been acquired. These findings have implications for how policy-makers assess the usefulness of the skills that students acquire at university, and also for university administrators who oversee academic programs. Some of these implications will be addressed throughout the remaining sections of this chapter.

(iv) Some conclusions regarding the "value of a university education"

Based on the findings reviewed above, the main conclusion from this study is that a university education has been of value for the graduates in this study. A university education was of positive value for graduates in terms of the types of jobs they acquired in the labour market. As well, when asked to provide subjective assessments of their university education, most were more positive in their assessments than they were negative, and most did not have any regrets about their educational choices. A university education was also seen to be of value in terms of the range of skills learned in their programs and the fact that a number of these skills had been useful for them in the workplace.

Thus, policy-makers and others who are critical of universities are not necessarily correct in assuming that a university education lacks value today. Before adopting a negative stance about the quality of higher education, critics need to make a more concerted effort to examine how a university education might be of value. In many respects, they need to take better stock of graduates' transition from the post-secondary education system to the workplace.

While the current study has considered how a university education might be valued by graduates, findings from other studies, as well as observations about educational trends in Canada, suggest that the public also places considerable value on a university education. For example, as outlined in Chapter 1, results from public opinion surveys conducted in Canada over the last decade reveal that a majority of Canadians do value a university education (Krahn et al., 1995; Livingstone et al., 1995). Findings from the National Graduates Surveys over the last decade similarly reveal that a large majority of graduates have been satisfied with their educational choices (Clark et al., 1986; Barr-Telford et al., 1996; Little and Lapierre, 1996). Exit surveys conducted at individual academic institutions such as the University of Alberta, have also revealed that a large majority of graduates from bachelor level programs were satisfied with the education they had received (Population Research Laboratory, 1992, 1993, 1994). Finally, the fact that enrolment rates at Canadian universities have increased dramatically over the last twenty-five years also reveals that, at a broad level, Canadians value these institutions.

While a university education appeared to be of value for the graduates in this study, some might contend that other types of individual-level and structural factors played a role in influencing the types of jobs that graduates had acquired and the types of assessments that individuals provided about their education and the skills they developed. For example, research on status attainment and social mobility over the last thirty years has revealed a positive influence of parental background and socio-economic status on childrens' eventual educational and occupational attainment (Blau and Duncan, 1967; Harvey and Kalwa, 1983). Similarly, graduates of universities may have an advantage over others in that they are imbued with greater cultural capital (Bourdieu, 1977, 1986) and with attitudes and values which are more amenable to successful transitions between school and work. Besides this, the influence of local labour markets is an important consideration when examining graduates' employment outcomes. It is important to be attentive to such structural factors in light of the challenges which graduates have been facing in the Canadian labour market in recent years. Attesting to this, some of the graduates in this study expressed that "times were tough" when they began to look for work.

The point is that this study does not deny that other individual-level and structural factors may have played a role in the employment outcomes and assessments provided by the graduates examined here. However, the focus of this study has been more explicitly on the impact of a university education given the types of general criticisms directed at universities which question the value of a university education. Within these more general types of criticisms is the idea that graduates lack the necessary skills, knowledge or human capital required in today's competitive global economy. It is this broad critique of the university education system that this study has been particularly developed to address and which warranted a closer examination at this time. In the next section, I will explain how the current study addresses this human capital debate. As well, I will outline the contributions that this study makes to the sociological literature on skill.

2. Contributions to Theoretical and Empirical Research on Human Capital and Skill

The findings from this study are also distinctly relevant to discussions of human capital. As outlined earlier in Chapter 2, the concept of human capital remains largely unexplored empirically, much like a black box. Specifically, while social scientists, particularly economists, have used cost-benefit analytic techniques to examine economic returns to education among post-secondary graduates, they have generally not articulated the specific components of human capital. Generally, the sum of individual-level skills and knowledge that human capital implies is unexplored, and most often replaced by the proxy variable "years of schooling." This has been a key feature of human capital theory since its formalization by economists in the 1950s and 1960s (Mincer, 1958; Schultz, 1963; Becker, 1964). Despite the criticisms that human capital theory has fueled over the past forty years, both inside and outside of the field of economics, there still remains an emphasis on the simple relationship between "years of schooling" and economic returns, to the exclusion of additional explanatory variables such as skills. While the variable "years of schooling" might very well be positively related to skill development, human capital researchers would do well to articulate the specific components of human capital, in addition to examining economic returns. This issue is particularly relevant today, given the recent interest by government and industry in the skill development of Canadians. A careful analysis of which skills are acquired through post-secondary programs, and of which skills are most beneficial for individuals in the labour market, would provide useful information on how human capital translates into economic returns. Expressed another way, such an approach could add greater explanatory power to cost-benefit analytic models. As it stands, such models are unable to explain the specific aspects of an individual's human capital that are of value in the labour market. Such empirical oversights can lead to legitimate and valuable employment skills acquired through education going unacknowledged, even though they might be highly valuable for employers. Such information would also provide useful feedback for academic institutions concerned about the transferability of skills and knowledge from the education setting to the labour market.

The current study was developed, in part, to address this gap in the research literature on human capital. That is, it has attempted to articulate more explicitly the components of human capital that university students may acquire through their education. Just as the term *human capital* implies productive value that individuals may bring to the workplace from their education, this study has examined graduates' perceptions of which skills were of productive value for them in the workplace. As outlined, graduates were able to identify a number of key skills throughout the interviews that they believe were acquired in their programs. Many of these skills, such as *analytical/ reasoning skills, social/ interpersonal skills,* and *communication* skills, are basic or general employment skills, representative of the general types of academic programs in which they were developed. A large majority of graduates believed that their university education was very important for having learned or developed these skills. Overall, this information helps reveal what it is about graduates' university education which has been of value for them as transferable human capital in the workplace, that is, beyond the pure advantage of having a credential such as a university degree. To the extent that graduates did recognize a number of different skills that they learned at university, that they believed their university education was important for developing these skills, and that a number of these skills were useful for them in the workplace, it can be concluded that valuable human capital was acquired. Other recent Canadian research suggests that a majority of university graduates across the country assess a number of skills that they developed at university, including thinking and writing skills, quite positively (Krahn and Bowlby, Forthcoming). However, graduates in this study also believed that more could have been learned at university. For example, about half of the graduates believed that their human capital could have been enhanced by learning some additional practical, and job-oriented skills and knowledge in their programs.

Whether or not researchers adopt some of the specific methodological strategies utilized in this study, future research on human capital formation should employ methods which can better articulate at an empirical level the specific components of human capital. A much more concerted effort needs to be made to understand what has been advantageous for individuals, in terms of employment skills, when they enter the labour market. Until then, broad generalizations about human capital deficiencies and skill shortages among post-secondary graduates and Canadian labour will lack credibility.

Besides these contributions to research on human capital, this study has utilized a definition of skill which often receives less attention in the sociological literature. More specifically, this study has adopted a *skill in individuals* perspective. That is, it is assumed that individuals acquire skills through the education system, including universities, that are transferable to the labour market, and which function to provide economic and non-economic benefits to individuals, employers and society. This position is aligned with human capital theory in the field of economics, since it focuses on the skills that individuals acquire through the education system and which are beneficial to them in the labour market. This study has also adopted this perspective as a way of specifically addressing some of the critiques of the education system, which similarly adopt a *skill in individuals* position. As outlined, some of these critiques implicitly or explicitly suggest that graduates lack critical employment skills when they enter the workplace.

The perspective on skill adopted here is fundamentally different from a *skill in jobs* perspective, which is typically used by sociologists to examine broader changes in the skill levels of occupations over time (e.g., Braverman, 1974; Myles, 1988; Gallie, 1994). A human capital perspective on skill has sometimes been criticized for failing to take into account the labour market conditions which may prevent individuals from utilizing their acquired human capital (Noble, 1994;

Livingstone, 1997). Researchers adopting such a position might argue that focusing attention on human capital formation is futile, since larger structural factors act to limit employment opportunities for graduates in their transition from the education system to the labour market. For example, some have pointed out that underemployment has been a significant issue for graduates over the past couple of decades (Livingstone, 1987, 1993; Redpath, 1994).

Nevertheless, while such observations are legitimate, they should not prevent sociologists from examining the skills and knowledge which may be acquired through post-secondary education and which may be of value for graduates in the labour market. By mainly focusing on systemic explanations of labour market outcomes for graduates, such critiques lack the opportunity to engage in a more focused dialogue with policy-makers and industry representatives about the skills that post-secondary students do acquire and take with them into the workplace. The current study has attempted to provide an empirical basis for addressing such debates about skill acquisition at the university level.

3. Methodological Approach

Another research objective of this study was to consider the relative value of utilizing an interview approach versus a more traditional survey questionnaire approach for examining graduates' assessments of their employment skills and their university education. Most existing studies have utilized a quantitative research strategy to examine these issues, that is, through the use of survey questionnaires. While the current study examined survey data from the *Edmonton School-Work Transitions Study*, semi-structured interviews, which introduced a qualitative component to the research design, were carried out with a group of university graduates in 1997. Since the interview approach used in this study offers a unique way to examine graduates' assessments of their university education, I will consider some of the benefits and limitations of this approach in relationship to a traditional survey questionnaire approach.

(i) Benefits of the Interview Approach

Generally, one of the main benefits of conducting semi-structured interviews with graduates is that it provided graduates with the opportunity to respond to questions in a much more open-ended manner, compared to the types of questions they are typically asked in quantitative survey questionnaires (e.g., graduate exit surveys, and other studies such as the National Graduates Survey). For example, although the interview questions themselves were structured, individuals could provide completely open-ended responses. One of the positive results of this is that a number of important "themes" emerged from the interview data. For example, aside from a number of favourable comments about their university education, many graduates suggested that their programs lacked a "practical" dimension. Some suggested that one of the problems with their programs was that they did not lead to specific jobs. Another theme that emerged was the way in which graduates conceptualized universities and other types of post-secondary institutions in terms of the types of skills that each teaches to their students. These comments were not made in response to specific questions but instead reflected opinions expressed by individuals throughout the interviews. In this respect, an interview approach was useful for helping to detect certain types of assessments that individuals expressed about their programs.

As well, and of particular importance, graduates were given the opportunity to volunteer information on which skills they believed they had developed and which were relevant to their jobs. This comprises an important contribution of this study to the research literature. For example, in many existing studies, graduates have been asked to assess a series of pre-defined skill types by way of a number of question formats, including Likert scales. While these studies have largely assumed that the skill types being examined are those that graduates may be developing, and which are perceived as being important, little academic research has examined which skills graduates themselves identify as having learned in their programs and which would be useful in the workplace. In fact, the responses that individuals volunteered about the skills they learned at university were not dramatically different from the skill types included in many existing studies. For example, graduates voluntarily cited *analytical/ reasoning skills*, *social/ interpersonal skills* and *communication skills* as having been learned in their programs. From a methodological point of view, this suggests that other survey researchers are, in fact, focusing on many of the skills that are important to graduates. However, as the interview component of this study was based on a smaller sample size, future studies, and particularly larger survey designs, might consider incorporating more open-ended responses into their questionnaires in order to examine the types of employment skills that individuals volunteer as having been learned. Information of this sort may help to further identify the types of skills that graduates themselves believe they are learning, aside from what researchers and university administrators may believe they are conveying to their students. For example, some research has found a discrepancy between the skills students believed they were learning, and the skills that university faculty believed they were teaching (Lecky and McGuigan, 1997).

One very general observation from having conducted the interviews myself is that, despite some specific criticisms that interview participants provided about their university programs, almost all individuals were positive about having gone to university, and almost all seemed to genuinely value their education several years later. Several participants were particularly positive in their assessments of their university education and believed that a degree was of great advantage to individuals as a credential, but particularly in terms of what individuals learn at university. Comments offered by a few individuals suggested that, over time, they also came to recognize the broader value of their education. For example, as Bill, a Business graduate, remarked:

> "...this is not a sprint it's it's a marathon...you know we-we come out of the gates a little bit slower I think- uh as university graduates. Um- uh- but I think you're- you're better off in the end."

Generally, this finding suggests that the skills and knowledge that university students acquire have lasting value and may be more important for individuals over time. Methodologically, this finding suggests that researchers need to be conscious of when they are conducting surveys of graduates. For example, follow-up studies conducted only one or two years after graduation may present an incomplete picture of graduates' perceptions of their education.

One interesting observation is that several interviews participants did have at least some difficulty in identifying what they had learned at university in terms of employment skills, but particularly which skills had been useful for them in the workplace. For example, for about two-thirds of individuals, it was either "very difficult" or "somewhat difficult" for them to articulate how the skills they had learned at university were applicable to their jobs. This is not to suggest that the majority of individuals were unable to identify skills which had been learned, or that they believed that such skills were not relevant to the labour market. For example, while some participants had some initial difficulty in identifying skills that they had learned, most did cite skills that they said they had learned at other points in the interviews. As well, overall, on average, individuals mentioned between three and four skills each that they had learned in their programs. My point is that, for some individuals, the exercise of identifying and categorizing different aspects of their university education into discrete skills was somewhat problematic. Part of this difficulty may have resulted from the fact that most individuals who were interviewed had graduated from programs that are more general in their academic orientation, as opposed to programs which are more oriented to specific job outcomes. Thus, it may be that some individuals simply had not considered, in any concrete manner, the types of skills that they had learned.

Thus, another benefit of the interview approach is that it was effective in identifying this difficulty that some graduates had in articulating their thoughts about skill development and skill use on the job. This is an interesting finding considering the fact that other recent Canadian studies on university graduates, such as the 1997 National Graduates Survey, have found that a large majority of respondents are typically very positive in terms of their assessments of a number of skills that they developed at university, including thinking skills and written communication skills (Krahn and Bowlby, Forthcoming). Therefore, some individuals may be able to more easily identify and rate their skill development when presented with a pre-defined list of skills, as opposed to being asked for a more open-ended response (i.e., in an interview setting). This does not invalidate the interview approach used in this study, but helps to reveal that participants may be limited in terms of how they identify and discuss the skills they learned at university. The fact that this study detected this, is itself a contribution. It helps to suggest that assessments of skill development and skill use are perhaps more complex for individuals to identify, and therefore for researchers to measure, than what might be suggested from survey research findings alone. This observation also has implications for university educators and administrators, in terms of how their students reflect on their educational experiences including the skills and knowledge that they learn at university. I will return to this issue in the final section of this chapter.

Given some of this discussion on graduates' assessments of their skill development and the interview approach, a couple of related comments about the analysis strategy utilized might be warranted. The manner in which the interview data were analyzed in this study might lead some researchers to believe that more could have be learned about some of the issues related to graduates' skill development than what has been presented here. For example, analyzing responses according to other analytical dimensions, such as a more thorough examination of the "context" of participants' responses, or whether responses were contingent (or not) upon the interviewer's questions and probes, would provide other ways to examine the data. In this study, the strategy which was utilized involved categorizing responses into codes and then reporting the number of responses to questions by these dominant codes. These codes were not pre-defined, but were developed from participants' open-ended responses to the questions that they were asked in the interviews. Generally, this analysis strategy was specifically chosen to address the key research questions which were outlined in chapters 1 and 2, and in this sense I believe it was effective. Together, the findings to these research questions as presented throughout chapters 4 through 6, helped to address the main objective of this study, which was to examine the value of a university education. Thus, although different analysis strategies exist, their usage might be more germane to research questions not asked in this study.

Finally, another larger benefit of the present study is that individuals were contacted once they had been in the labour market for a number of years. As such, individuals could reflect back on their experiences with more insight, as they had acquired a reasonable amount of work experience in the previous seven or eight years. This is more advantageous than the strategies used in some studies which only examine graduates' experiences one or two years after graduating, or only base conclusions on the first jobs acquired by graduates. While this shorter time-frame may be useful for some research objectives, it is equally important to examine graduates' outcomes over a longer period of time.

(ii) Limitations of the Interview Approach

Having outlined a number of the benefits of an interview approach, I should also acknowledge some of the potential limitations. First, the smaller sample size in the interview component of this study may raise questions about the generalizability of the findings. For example, due to the smaller number of individuals in each of the four faculties, it is likely possible to generalize these findings beyond the group of individuals examined in this study. As well, where there was little consensus found in terms of how graduates responded to particular questions, it would be difficult to assert that findings would be generalizable.

On the other hand, as mentioned in Chapter 3, I believe there are instances where it is possible to generalize the findings from this study to a broader group of graduates. For example, some findings from Chapters 4-6 revealed that graduates provided unanimous types of responses to particular questions. In Chapter 5, for example, it was revealed that more than nine-tenths of individuals indicated that obtaining their degree "was worth it" for them. As well, in Chapter 6, more than nine-tenths of sample members remarked that their university education was important for them to have learned the skills they had cited. This type of unanimity of response at an aggregate level suggests that it may be possible to generalize some findings beyond the individuals who were interviewed in this study.

However, another factor suggests that it may be possible to generalize some of the findings. For example, an examination of the 1985-1992 ESWS panel data in Chapter 3 revealed that there was little difference with respect to how the 123 member university sample responded to several questions versus the smaller 35 member sub-sample (i.e., or those interviewed in this study). This comparability in findings suggests that the individuals in this study may not differ that greatly with the larger university sample from which they were drawn. Thus, it may be possible to generalize the findings from this study especially since the 123 ESWS sample members come from a representative group of 1985 high school students who later went on to attend a large Canadian university.

With this said, it should be noted that this study was not explicitly designed to generalize findings to a wider population of university graduates. Instead, the study was developed, in part, to obtain from graduates more open-ended responses about issues surrounding assessments of university education and employment skills. In this respect, there was more emphasis on depth of understanding, compared to traditional survey questionnaires that emphasize broader generalizability. To the extent that the findings from this study have provided information about the skills that graduates say they developed in their programs, and the types of things that they value about their university education, I believe that this goal has been achieved. However, as suggested, there may be some basis for assuming that the findings from the qualitative portion of this study are not necessarily only specific to those who were interviewed. That is, some of the findings from this study may be generalizable to a larger group of graduates.

While a benefit of the interview approach is that it was useful for having individuals identify the skills that they had learned in their programs, a drawback with this approach is that analyzing and interpreting subjective assessments of skills posed some challenges at times. For example, during the process of coding graduates' responses about the skills they learned, it was difficult at times to classify responses beyond simple coding categories (e.g., "good" or "bad"). In this respect, a quantitative scaling technique, such as that used for the questions which measured self-reported skill development in the ESWS questionnaires, is more effective. For example, in the 1989 and 1992 phases of the ESWS, respondents were asked to assess their communication and reasoning skills on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree." An effective strategy for researchers to consider in the future would be to combine the use of open-ended questions about learned skills with a follow-up question using quantitative scaling techniques. This would allow graduates themselves to identify the skills that they learned in their programs, and would help researchers in interpreting the degree to which individuals believe such skills were learned.

Another potential limitation of both the interview data and the survey data is that findings are based on self-reports of graduates. A criticism of self-reports is that responses are highly subjective. Some researchers such as Evers and O'Hara (1996) suggest that more objective behavioural measurement strategies are needed in studies of graduates' skills and knowledge. Pike (1995, 1996) similarly notes that, while self-reports can be used as general indicators of development, they should not replace objective forms of testing. Nevertheless, there are a number of drawbacks with objectively testing for the development of skills. For example, implementing objective testing may be highly expensive and the results of such tests may be difficult to interpret given that some tests may be relevant to some (workplace) settings but not others. As well, objective forms of testing would not necessarily be immune to many of the measurement and conceptualization issues surrounding "skill" which were outlined in Chapter 2.

As already noted, one of the benefits of this study is that individuals were interviewed several years after having graduated. This provided the opportunity to examine graduates' responses after they had acquired a reasonable amount of experience in the labour market. However, one of the limitations of this approach is that individuals were offering retrospective assessments of their university education and the skills they developed. This poses a potential threat to the reliability of the findings. On this point, I would observe that interview participants were given the opportunity to express opinions about their programs at several different points throughout the interviews. For example, several questions addressed how individuals assessed their programs, what they learned in their programs, and what they should have learned in their programs. These questions encouraged individuals to provide responses about a similar topic area, that is, evaluations of their university education and their skill development. As Kirk and Miller (1986) note, a similarity of qualitative observations within a single time period, or observations that are consistent in this respect, suggest that findings have "synchronic reliability." In this respect, I did not find contradictions in the opinions that individuals expressed about their programs, throughout the interviews. While this does not guarantee complete reliability, it does suggest that individuals were at least consistent in the views that they expressed. Besides this, with the exception of a couple of individuals who did comment that they had a little difficulty thinking back to the time when they were in university, most interview participants were quickly able to convey a number of coherent observations about their programs and their university experiences. Generally speaking, this does suggest that recall was not a major hindrance for individuals throughout the interviews.

4. Future Research Directions

Admittedly, studying the value of a university education is an ambitious task. The research strategies utilized in the current study are by no means definitive for addressing this topic, but nevertheless help to provide an empirical basis for exploring perceptions of university education and employment skills. And while it is important to examine graduates' assessments about the value of their university education in the manner conducted here, there are related research questions and modes of inquiry which could extend upon this research project.

For example, while this study examined the perceptions of graduates from four university programs (i.e., Arts, Science, Business and Education), it would be useful to examine the perceptions of graduates from other program types, such as "professional" programs (e.g., Nursing, Engineering, Law). A study of this nature would help to convey how individuals from programs more oriented to specific jobs in the labour market assess their education and their employment skills. Related to this, another potential research direction would be to examine the perceptions of graduates from other types of post-secondary institutions.

As well, while graduates from the University of Alberta were examined in this study, it would be important to examine how graduates from other Canadian jurisdictions assess their education and their employment skills, as well as to examine their employment outcomes. For example, it would be interesting to examine how the influence of local labour markets in different parts of the country interact with graduates' assessments of their university education and their employment skills. While the current study has examined, among other things, the extent to which a university education may be responsible for employment outcomes, as suggested earlier, it is important to be attentive to how structural factors may impact success in the labour market, as well as self-assessments of skill acquisition. A cross-comparison of findings from different Canadian jurisdictions would be useful in this respect.

Furthermore, it would be useful to vary the length of time between when individuals complete their academic programs and when they are interviewed. While individuals in this study were interviewed eight years after graduating it would [illegible]ful to determine how variations in lengths of time have an impact on the types of assessments tha[illegible]viduals provide, including how they articulate their thoughts and express their opinions about their education. With that said, it is still important to examine graduates' assessments once they have been working for *at least* three to five years. The reason for this is that it is important for a sufficient amount of time to elapse so that graduates can convey their assessments in the context of having acquired a reasonable amount of workplace experience.

Finally, with respect to examining individual skill acquisition in academic programs, other potential directions for future research could involve more objective forms of testing for skill development. For example, given the inherently problematic nature in defining and measuring skill, it is important to consider what types of findings may be revealed when using alternative methodological strategies. Furthermore, there may be a need to examine how employers rate the skill levels of graduates in their firms or organizations. Research of this nature has been conducted by Evers et al (1998) and may provide one type of model for how research of this nature could be carried out.

5. A Note to University Administrators

The main finding from this study is that a university education was of value for graduates in terms of their labour market outcomes, their subjective assessments of their education, and also with respect to the types of skills they learned at university. These findings should be encouraging to university administrators, but particularly those at the University of Alberta. Administrators should be pleased that, several years after completing their programs, graduates were generally supportive of many aspects of their university education. These findings should also be seen as very positive, given many challenges that graduates have encountered in the turbulent labour market over the last decade.

Nevertheless, despite the largely positive findings, administrators should also be attentive to the types of criticisms and suggestions that graduates offered about their education, including the skills that they developed. For example, about one-third of individuals in this study remarked that a weakness of their university programs was that they did not lead to specific jobs. Beyond this, and perhaps more importantly, is the fact that at least half of all graduates in this study were critical that their programs lacked a practical dimension and believed that some additional job-specific skills should have been learned. This is not to suggest that graduates believed that universities were doing a poor job with respect to the types of skills that students develop. For example, at least half of all graduates were content with the types of general skills that individuals learn at university. Nevertheless, the findings suggest that a significant number of graduates would have preferred to see a clearer link between what they learned at university and what they came to experience in the labour market.

Thus, while graduates in this study were largely supportive of their university education, including the skills that they did develop, they believed that some modifications could be made to the type of education they received. In terms of specific suggestions offered, about one-quarter of participants remarked that co-op or work experience programs would be effective in this respect. Some of these individuals suggested that more programs of this nature could be implemented in universities. It is interesting to note that at least some graduates from each of the four faculties examined in this study mentioned the need for co-op programs. This suggests that, in addition to individuals in programs which already have such programs in place (e.g., Engineering), graduates from other programs such as Arts are also open to the possibility of having more work experience programs included in their university education. Additionally, a few graduates suggested that implementing employment-related courses or seminars into current programs would help to teach students about some of the more "practical" aspects of their fields of study.

Another finding which might be of interest to administrators is the fact that some individuals had difficulty identifying the skills that they learned in their programs, and also in articulating how useful some of these skills were for them in the workplace. It appears that some individuals had not considered how their education directly related to the labour market, which is possibly due to the fact that most participants were from general types of university programs that teach general types of skills. As well, as revealed in Chapter 5, a slightly higher percentage of individuals mentioned, while they were in university (i.e., 1986 and 1989) and after they graduated (1997), that they had entered their programs mainly because of an interest in the subject area rather than for career reasons. Thus, these individuals may not have been looking to acquire skills oriented to specific occupations to the same extent as graduates from other types of post-secondary programs (e.g., Nursing, Dentistry, Engineering). As a result, some of these individuals may have had some difficulty describing their programs and the skills they learned in relation to the labour market.

This finding suggests that institutions need to develop a better dialogue with their students and faculty about teaching and learning objectives. This might be particularly advantageous to universities, given the fact that their critics have continued to focus attention on individual skill development and human capital formation over the past several years. If students are more aware of the skills and knowledge that they are acquiring at university, they may be in a better position to articulate the benefits of their education to those outside of the university system (including employers) who may question the value of a university education, and specifically what types of skills that students are learning.

Generally speaking, the comments expressed by interview participants which suggest they are open to the idea of acquiring more practical skills and knowledge raise important questions regarding the goals and objectives of a university education. Such opinions should be considered in terms of ongoing debates in Canada and elsewhere over the course of the last century regarding the broader role of university education in society. Some of these debates have focused on the extent to which universities should focus their attention on vocational or instrumental pursuits, versus offering a more liberal or general type of training for students. In more recent years, such debates have sparked comments about a "crisis" for Canadian universities (Neilson and Gaffield, 1986; Emberley, 1996). It is also within these debates that the criticisms of policy-makers and industry regarding the value of a university education are situated. While the findings here suggest that graduates do largely value their education, there may be a need for university administrators to at least take into consideration what graduates tell them about the need for more practical training.

However, the desire for more practical, and presumably more job-specific training at university, once again addresses the role that universities are to play in society. For example, it might be asked to what extent universities are even responsible for teaching practical, job-specific skills and knowledge to their students. As well, to what extent would it even be possible for universities to carry out this demand on a large scale? A brief consideration of the latter issue suggests that direct placement of all university graduates into specific jobs would be unrealistic for a number of factors. For example, it would be highly unlikely that the labour market could absorb the influx of thousands of Canadian university graduates from all program types into directly related jobs, each and every year. As well, given rapid changes which have been taking place in the labour market as a result of a competitive global economy and technological change, it would not likely be possible for university curriculum to meet the ongoing, changing demands of the labour market. Furthermore, while a number of university programs are already oriented to specific jobs in the labour market (e.g., Dentistry, Nursing, Education), the ability of other programs (e.g., History, Philosophy, Sociology) to develop curricula in this respect would not be as obvious, or even possible, since such jobs simply do not exist on a large scale outside of the education system (e.g., "historian," "philosopher," "sociologist"). Thus, the issue at hand might be the degree to which universities would be willing or are able to address the possible demand for more practical skills and knowledge being acquired in programs. Some researchers have noted that there are opportunities available for educators and administrators from all types of programs to address the future employment needs of their students. For example, in addition to the implementation of work experience programs, as discussed earlier, innovations such as "capstone" courses and other types of senior year programs have been developed in recent years to specifically to address graduates' transition from post-secondary education to the labour market (Evers et al., 1998; Gardner, 1998; Cuseo, 1998).

There are other more practical reasons why university administrators might need to be more attentive to the opinions of their students, as well as their success in the labour market. As outlined at the outset of this study, over the last several years universities have been pushed to become more accountable for the education that they are providing. In Alberta, for example, a system of performance-based funding has been developed in recent years, which ties institutional funding at the post-secondary level to a series of key performance indicators (Alberta Advanced Education and Career Development, 1995, 1996). Some key performance indicators in the Alberta funding mechanism measure such things as students' satisfaction with aspects of their education, skill development, and employment outcomes (Alberta Advanced Education and Career Development, 1997). It is clear that provincial governments (i.e., at least Alberta) are interested in what students are telling them about their educational experiences, and about how useful their education is in the labour market. Given a more widespread political focus on institutional accountability over the last decade, such performance-based funding mechanisms will likely become more common for post-secondary educational institutions in various jurisdictions across Canada. In this respect, university administrators may have no alternative but to be more attentive and responsive to what their "customers," the students, are telling them about the education that they are receiving. While the current study suggests that graduates valued many aspects of their university education, there is evidence that some are looking to acquire some practical or job-specific skills at university, in addition to the basic or general employment skills that they are already developing.

For many of these reasons, university administrators need to conduct better follow-up studies of their graduates. While many institutions have implemented exit surveys to gauge the attitudes of their graduates at the time of graduation, little is learned from such studies about how graduates may fare in the labour market over a longer period of time[1]. This type of information would provide valuable feedback in terms of what has or has not been useful for graduates once they leave university and enter a variety of employment pathways in the labour market. While calls have been made to track the labour market outcomes of graduates over time (Smith, 1991), only a few Canadian studies such as the *Making the Match* project (Evers et al., 1998) have explored such outcomes in much depth. Although based on a relatively small sample of university graduates, the findings from this study, as well as the types of methodological approaches utilized, might offer administrators some insight into how graduate outcomes could be examined in the future.

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[1] As part of the performance-based funding mechanism in Alberta, it is necessary for post-secondary institutions to conduct exit surveys when students are about to graduate, and also follow-up surveys to collect employment outcome information. However, many of the typical questions in these surveys (Alberta Advanced Education and Career Development, 1997) only provide very basic information on graduates' skill development, educational experiences and employment outcomes. Follow-up information about graduates' employment outcomes is collected either 6-9 months after graduation (for College and Technical graduates), or 2 years after graduation (for University and Private College graduates). A more useful approach would collect more detailed information on both skill development and skill utilization in the workplace, as well as information about employment outcomes over a much longer period of time. In this respect, the current study goes beyond the types of exit and follow-up surveys currently required by the Alberta government.

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Appendix 1
1997 Interview Schedule

Section A.

In my study, I am looking at the work experiences of university graduates, and the perceptions of graduates towards their university education.

Ethics:

Just before we start, I'd like to briefly go over some University regulations that are observed in this study.

1. Any information/responses that you provide today will be kept strictly confidential
2. Your identity will be only known to me (who you are; where you work etc.)
3. While the questions are not on highly sensitive topic areas, should you not wish to respond to something, you don't have to
4. As a researcher for this study, I do have access to the questionnaires filled out by participants in earlier phases of this study. This is only to provide me with some background information about participants, and for reasons of being able to analyze responses over time.

I'd like to start off by asking you a few questions about your university program. Just to confirm for me, you graduated with a degree in ________________ (program) in ________(year). What was your major _______________? Have you received any additional formal education since graduating from university (other programs, courses taken)?

1a) First, thinking back a few years now, what made you choose your particular program of studies? [Probe: Was potential employability of great concern to you when you made this decision?]

b) Briefly, looking back now, what are your general impressions of your program, in terms of its strengths and weaknesses?

I'd like to ask you a question on a slightly different topic:

2) In the media, the word skill has frequently surfaced over the past few years, and it's often used in the context of discussions on the workplace and education. I've been talking to people about what skill means; so far I've been given a number of different responses on what it means. While you may not have thought about it before, what does the term skill mean to you?

3a) In your program, what types of things did you learn, or what types of abilities did you develop that are relevant to jobs or the workplace? [Probe: Provide examples of what is meant by XX; How were these things actually learned in program?]

b) What types of jobs would you say these things or abilities are useful for? [Probe: a wide variety, or more specific jobs?]

c) What types of things did you learn at university outside of your program, that are relevant to jobs or the workplace? (e.g. campus events, extra-curricular activities etc.)

d) Overall, how important was university for you in terms of learning these things or abilities? [Probe; Where else did you learn these things?]

4) Have you ever had any regrets about the educational choices you made at university, in terms of your choice of program, or courses? [Probe: How come? Is this related to your work experiences? What would you have done differently if you had the chance?]

5) Are there things you believe you should have learned at university which would have been useful for you in the workplace? [Probe for specific things]

6a) Some people have said that universities are out-of- touch with the needs of their students, in terms of their being able to get a job after graduating. What do you think about this? [Probe: Is there anything that should be changed about university education?]

b) Do you think there should be an effort made in universities to teach more specific job-related skills to students, instead of general or basic types of skills?

c) There is a certain perspective held today that what is really useful for university graduates when they eventually enter the working world is not what they specifically learned at university; but very simply what helps graduates the most is having that degree or piece of paper. Based on your own experiences, what do you think about this?

Section B.

Now I'd like to ask you about your work experiences since you graduated from university.

10a) What was it like for you looking for a job after you graduated? [Probe for details; Was having a university degree in _____________ helpful for you in terms of looking for a job?]

b) Could you briefly list for me the jobs you've had since graduating?

11) In your opinion, what is a skilled job?

12) I would like to ask you a bit about your current job (or most recent job). What is your current job ___________? (job title etc.) Could you describe for me the types of things that you do in your job? [Probe for details on tasks etc.]

13a) Overall, how complex would you say your job is (or most recent job)? [Probe for details]

b) How long would it take to learn to do this job well?

c) In terms of job complexity, how does this job compare to the other jobs you've had since graduating?

14a) How much of an opportunity is there for you in taking initiative, or making your own decisions, in this job? [Describe]

b) How does this compare to the other jobs you've had since graduating (i.e., in terms of taking initiative or making your own decisions)?

15a) Do you have any type of supervisory responsibility in your current job (or most recent job)?

b) Did you have any supervisory responsibility in your other jobs?

16a) Would you consider this job to be a skilled job? [Probe: How is it skilled/not skilled?]

b) Would you consider the other jobs you've had since graduating to be skilled jobs? [Probe for details]

17a) Have you had any formal job-training in the jobs you've had so far, or have you learned things more informally while on-the-job? [Probe: Which jobs? How long? What types of things have you learned informally? (and through formal training)]

b) Do you think it's the responsibility of employers to spend their time training workers on the things they want them to know?

18a) Would you say you are overqualified, underqualified, or well-matched for your current job (or most recent job)? [Probe: How are you over or underqualified? If well-matched, would this be the case if you hadn't acquired your university education?]

b) What about the other jobs you've had since graduating? (i.e., overqualified, underqualified, or well-matched?)

c) How important is it for you to be able to have a job which is closely matched to your education? [Describe]

d) We were talking earlier about the types of things you learned, or abilities you developed in your university program which would be relevant to the workplace. Have some of these things you mentioned been useful for you in your work experiences so far? [Probe: Describe. In what way have they been useful? Which jobs and how specifically?]

e) Once again, with respect to these job-related things or abilities you mentioned you learned or developed in your program: are there any which you feel you have NOT been able to utilize in the jobs you've had so far?

19a) Overall, how satisfied are you with your job right now?

b) Is it a job you would choose again, if you had the opportunity?

Section C.

I appreciate your patience so far. I've just got a few more questions.

20a) Some people have noted that a significant reason why there are higher levels of unemployment for younger adults in Canada, is because of a skills shortage. For example, it has been suggested that university/post-secondary students are not acquiring the skills needed by employers today. What would you say about this view that a skills shortage is a significant reason why younger adults such as university/post-secondary graduates, have experienced higher levels of unemployment? (If agree, then which skills?) [Probe: What types of things do you think employers are looking for in prospective employees today?]

b) Do you think it's the responsibility for university students to make sure they have the right kinds of skills that employers are looking for? [Probe: If yes, how come? If no, who else is responsible?]

21a) Do you think Canadians will need higher levels of education in the future? [How much? What kind of education?]

b) Do you think you will need more education in the future? [How much? What kind of education?]

22) How do you feel about your own future in terms of employment?

23) One thing we've been talking about here today is the idea of skill, as it relates to university graduates, and the workplace. Do you have additional thoughts about workplace skills now that we've gone through some of the questions?

Supplement:
24) Do you find that people your age (i.e., around 30) are facing any specific circumstances in terms of employment? (i.e. are you competing with baby boomers for jobs?)

25) Is this a time in your life (i.e. being around 30) when you are making some important decisions about your future in terms of employment? (in light of family, career changes)

For women:
25a) Are you married?
b) Do you have any children? No? -> Any plans?
-> Yes to either? How does having children (or plans to have children) have particular consequences for you in terms of employment?

I'd like to thank-you for taking the time to be a part of the study. I really appreciate your patience with all of the questions I asked, and I appreciate the answers you gave me.

Do you have any questions about the study, or are there any comments you'd like to make about what we've discussed here today?

I'd like to send you a summary of the final results when the study is eventually completed. Therefore, I'd like to confirm that I have your correct mailing address.

Appendix 2
1997 Interview Participants
by Academic Program, Academic Major, and Gender

Total number of interview participants: 37

I. Faculty of Arts (10 participants)

Male

- -Darren, Psychology
- -Ken, Political Science
- -Ron, Classics
- -Maurice, Economics/History
- -Rob, Psychology (and Education After-Degree)

Female

- -Erin, Fine Arts
- -Janet, Psychology
- -Julie, Criminology
- -Trina, Psychology/English
- -Melanie, Sociology

II. Faculty of Science (13 participants)

Male

- -Leo, Zoology (and Management Studies diploma program)
- -Ali, Genetics (and Business Management diploma program)
- -Peter, Earth Sciences
- -Blain, Chemistry
- -Daniel, Computer Science
- -Tim, Computer Science
- -Jeremy, Civil Engineering

Female

- -Mary, Biology (and Pharmacy degree)
- -Carey, Forestry
- -Krista, Biology
- -Chantel, Math/Psychology
- -Catherine, Forestry (and Education After-Degree)
- -Sarah, Occupational Therapy

III. Faculty of Business (8 participants)

Male

- -Bill, General Bcomm
- -Dave, General Bcomm
- -Gary, General Bcomm (and CA certificate)
- -Vic, General Bcomm (and CA certificate)
- -Mike, General Bcomm

Female

- -Heather, General Bcomm
- -Shelley, General Bcomm
- -Pamela, General Bcomm

IV. Faculty of Education (6 participants)

Male

- Jonathan, Elementary Education

Female

- Tara, Elementary
- Olivia, Early Childhood
- Trisha, Elementary
- Cloe, Physical Education
- Lori, Physical Education